

Annex B

Updated Traffic Impact Assessment

**Proposed Conversion of part of the Pulse
into Hotel in “Other Specified Uses
(Beach Related Leisure Use)” and
“Government, Institution or Community” Zones
at No. 28 Beach Road, Repulse Bay**

**Traffic Impact Assessment
Updated Final Report
12th May, 2025**

Prepared by: CKM Asia Limited

Prepared for: Goldshine Investment Limited

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1.0 INTRODUCTION

Background

- 1.1 The Subject Site is located at 28 Beach Road, Repulse Bay, Hong Kong. It is now occupied by a retail building, which is known as The Pulse (hereinafter "the Existing Development"). **Figure 1.1** shows the location of the Subject Site.
- 1.2 The Owner, i.e. Goldshine Investment Limited, intends to convert the upper 2 floors (1/F and UG/F) of the Existing Development into a hotel with 96 rooms. In addition, the existing changing room at B1/F will also be converted into an ancillary gym and spa for the hotel. With this conversion, the retail GFA will be reduced from existing 13,728m² to 5,841m² (hereinafter "the Proposed Conversion").
- 1.3 CKM Asia Limited, a traffic and transportation planning consultancy firm, has been commissioned by the Owner to prepare this Traffic Impact Assessment ("TIA") in support of the planning application for the Proposed Conversion. This TIA report has been updated in responses to the comments provided by Transport Department during the pre-submission stage, **and in March 2025**.

Scope of Study

- 1.4 The main objectives of this study are as follows:
- To assess the existing traffic and pedestrian issues in the vicinity of the Subject Site;
 - To justify the provision of internal transport facilities;
 - To quantify the amount of traffic and pedestrian generated by the Proposed Conversion;
 - To examine the traffic and pedestrian impact on the local road network;
 - To identify any deficiencies in the road and pedestrian network in accommodating the expected traffic and pedestrian generation associated with the Proposed Conversion; and
 - To recommend traffic and pedestrian improvement measures, if necessary.

Contents of the Report

- 1.5 After this introduction, the remaining chapters contain the following:

Chapter Two	- Describes the existing condition and surveys,
Chapter Three	- Outlines the Proposed Conversion,
Chapter Four	- Presents the traffic and pedestrian impact analyses, and
Chapter Five	- Summarises the overall conclusion.

2.0 THE EXISTING SITUATION

The Subject Site

- 2.1 The Subject Site is elongated with a length of some 260m, but has a narrow depth averaging at only 15m. It is bounded by Beach Road to the east, and the Repulse Bay Beach to the west.

The Existing Development

- 2.2 The Existing Development is a 6-storey retail-only building with some 13,728 m² GFA. For easy understanding, the existing building disposition is illustrated below:

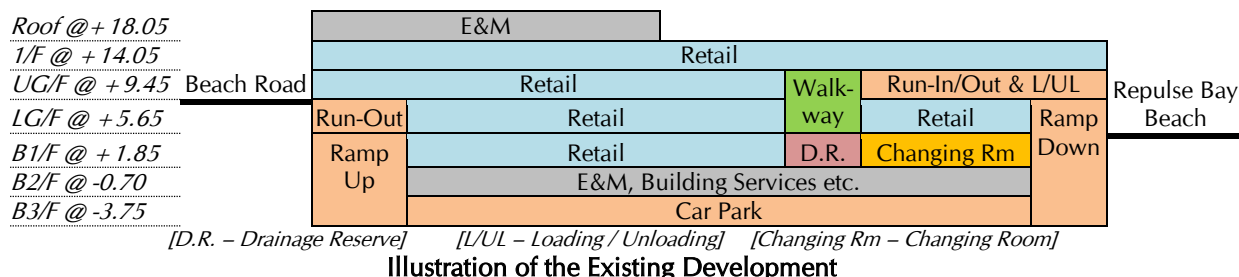


Illustration of the Existing Development

- 2.3 Internal transport facilities are provided on UG/F, and B3/F at present. Table 2.1 presents details of the existing internal transport provision.

TABLE 2.1 EXISTING INTERNAL TRANSPORT PROVISION

Facility	Number of Spaces / Bays	Location
Private Car Parking Spaces	Conventional: 26 nos. @ 5.0m (L) x 2.5m (W) x Min. 2.4m (H) Mechanical: 70 nos. on 35 sets of double deck car parking racks @ 5.0m (L) x 2.5m (W) Accessible: 1 no. @ 5.0m (L) x 3.5m (W) x Min. 2.4m (H) Total: 97 nos.	B3/F
Van-Type Goods Vehicle Loading / Unloading Bays	4 nos. @ 5.0m (L) x 2.5m (W)	UG/F (Indoor)
LGV Layby	1 no. @ 7.0m (L) x 3.5m (W)	UG/F (Semi-Open)

- 2.4 The headroom required for loading / unloading bays and layby are not stated in the Lease or the approved GBP. Hence, the headroom available at the loading / unloading area are measured on-site and summarised in Table 2.2.

TABLE 2.2 EXISTING HEADROOM OF LOADING / UNLOADING BAYS AND LAYBY

Facility	Location	Minimum Clear Headroom
Van-type Loading / Unloading Bays	UG/F (Indoor)	2.9m ^(Note 1)
LGV Layby	UG/F (Semi-Open)	3.8m ^(Note 1)

Note 1: Lowest headroom measured along the driveway, and at the loading / unloading bay or layby.

- 2.5 In addition, the Existing Development has 3 vehicular access points, including:
- Run-out from the car park at the northern end of the building,
 - Run-in/out of the UG/F indoor loading / unloading area and run-in of the car park at the southern end of the building, and
 - Run-in/out of the UG/F semi-open LGV loading / unloading bay at the southernmost end.

- 2.6 Figures 2.1 - 2.5 show the existing internal transport layout, and locations of the 3 vehicular access points.

Existing Goods Delivery Operation

- 2.7 In view the Existing Development provides limited number and type of goods vehicle loading / unloading bays, a survey was conducted to understand the existing goods delivery operation.
- 2.8 The Existing Development has 44 shops, of which 35 shops were occupied by some 30 tenants, i.e. a tenancy rate of 80%, when the questionnaire was conducted. The questionnaire survey was conducted for a 2-week period, i.e. from Monday, 25th December 2023 to Sunday, 7th January 2024, which covers the busy Christmas and New Year period and also normal days. Amongst the surveyed shop tenants, 28 responded, i.e. a response rate of 93%. [Calculation: $28 / 30 \times 100\% = 93\%$].
- 2.9 The maximum daily delivery was on Friday, 5th January 2024 with a total of 22 deliveries, of which 50% or 11 nos. used goods van, and the remaining 50% or 11 nos. used LGV. The peak 3-hour periods was from 1300 to 1600 hours with 7 deliveries, i.e. an average of 2.3 deliveries per hour. No M/HGV was used during the 2-week survey period.
- 2.10 77% of the deliveries were completed within 15 minutes, and the remaining 23% completed between 15 – 30 minutes. No delivery took longer than 30 minutes.
- 2.11 In terms of seasonal variation, only 6 shops indicated that there are 1 to 2 additional deliveries per week during the busy summer season, and these deliveries occur on weekday during the non-peak time period. Hence, the peak delivery operation on Friday, 5 January 2024 is opined to be representative, and is not affected seasonally.
- 2.12 Nevertheless, the survey concluded that the Existing Development with 13,728m² retail GFA has a maximum demand for 2 van-type loading / unloading bays, and 1 LGV loading / unloading bays during the peak hour. This demand could be fulfilled with the existing provision with 4 van-type loading / unloading bays and 1 LGV loading / unloading bay.

The Road Network

- 2.13 Beach Road is a single carriageway 1-way local road connecting Repulse Bay Road to the north and South Bay Road to the south. On-street parking spaces, laybys for passenger pick-off / drop-off, and red minibus and taxi stands are provided along Beach Road. Vehicles exceeding the height of 4.1m are prohibited to enter Beach Road due to restricted headroom. Goods vehicles are prohibited to enter Beach Road between 12noon and 7pm on Saturday, and all day on Sundays and General Holidays.
- 2.14 South Bay Path is a single carriageway 2-way local road connecting Beach Road and South Bay Road. Goods vehicles are prohibited to enter South Bay Path between 12noon and 7pm on Saturday, and all day on Sundays and General Holidays.

- 2.15 South Bay Road is a single carriageway 2-way local road connecting Repulse Bay Road to the north and ends at the South Bay Beach.
- 2.16 Repulse Bay Road is a single carriageway 2-way Primary Distributor connecting Wong Nai Chung Gap Road to the north and continues as Stanley Gap Road to the south. It provides regional access to the Subject Site.

Pedestrian Facilities

- 2.17 In general, footpaths are provided along both sides of Beach Road fronting the Subject Site. Further north of the Subject Site, footpath is only provided along one side of Beach Road, i.e. the western side along Repulse Bay Beach.
- 2.18 Pedestrian can reach the public transport service provided at Repulse Bay Road via a stairway which connects Beach Road and Repulse Bay Road.

Public Transport Services

- 2.19 The Subject Site is located close to public transport services, including franchised bus and green mini-bus (the "GMB") routes operate along Repulse Bay Road. **Figure 2.6** shows the stop locations of these public transport services in the vicinity, and Table 2.3 presents the details.

TABLE 2.3 PUBLIC TRANSPORT SERVICES OPERATING NEAR THE SUBJECT SITE

Route	Origin - Destination	Frequency (minutes)
CTB 6	Central (Exchange Square) ↔ Stanley Prison	10 - 30
CTB 6A	Central (Exchange Square) → Stanley Fort Gate	20 ⁽¹⁾
CTB 6X	Central (Exchange Square) ↔ Stanley Prison	10 - 25
CTB 63	North Point Ferry ↔ Stanley Prison	30 ⁽¹⁾
CTB 65	North Point Ferry ↔ Stanley Market	12 - 20 ⁽²⁾
CTB 66	Central (Exchange Square) ↔ Ma Hang Estate	20 - 30 ⁽³⁾
CTB 73	Cyberport / Wah Fu (North) ↔ Stanley Prison	12 - 30
CTB 260	Central (Exchange Square) ↔ Stanley Prison	15 - 20
CTB 973	Tsim Sha Tsui (Mody Road) ↔ Stanley	30 - 60
GMB 40	Causeway Bay ↔ Stanley Village	10 - 20
GMB 40X	Causeway Bay ↔ Stanley (Stanley Prison)	4 - 9
GMB 52	Aberdeen (Shek Pai Wan) ↔ Stanley Prison	5 - 12
GMB N40	Causeway Bay ↔ Stanley Village	20 ⁽⁴⁾
RMB	Mong Kok → Repulse Bay Beach	AM Service Only ⁽⁵⁾
	Repulse Bay Beach → Mong Kok	PM Service Only ⁽⁵⁾

Note: CTB – Citybus

GMB – Green Minibus

RMB – Red Minibus

⁽¹⁾ No service on Sundays and Public Holidays.

⁽²⁾ Service on Sundays and Public Holidays only.

⁽³⁾ AM and PM peak hours service. No service on Saturdays, Sundays and Public Holidays.

⁽⁴⁾ Overnight Services.

⁽⁵⁾ Limited services on Saturdays, Sundays, and Public Holidays during swimming season from April to September.

Existing Traffic Flows

2.20 Reference is made to Core Station 1011, i.e. Repulse Bay Road, found in the 2023 Annual Traffic Census ("ATC") published by Transport Department. It shows that traffic flow on Repulse Bay Road is highest on Friday for weekday, and on Saturday for weekend. The-relevant data sheet is found in **Appendix A**.

2.21 Hence, to quantify the existing traffic flows, manual classified counts were conducted during the AM and PM peak periods on a weekday, i.e. Friday, 10th January 2025, and on a weekend, i.e. Saturday, 11th January 2025, at the selected junctions within the Area of Influence ("AOI"). The surveyed junctions are found in Table 2.4.

TABLE 2.4 LIST OF SURVEYED JUNCTIONS

Ref.	Surveyed Junctions
J01	Junction of Repulse Bay Road / Beach Road
J02	Junction of Beach Road / South Bay Path
J03	Junction of South Bay Road / Beach Road
J04	Junction of South Bay Road / South Bay Path
J05	Junction of Repulse Bay Road / South Bay Road
J06	Junction of South Bay Road / South Bay Close

2.22 The AOI and locations of the above listed junctions are shown in **Figure 2.7**, and the existing junction layouts are shown in **Figures 2.8 - 2.12**.

2.23 The traffic counts were classified by vehicle type to enable traffic flows in passenger car units ("pcu") to be calculated. The AM peak hour are found to be 0800 to 0900 hours on a weekday, and 0900 to 1000 on a weekend; whereas the PM peak hour is found to be 1700 to 1800 for both weekday and weekend respectively.

Seasonal Adjustment

2.24 **With reference to** ATC Core Station 1011, it shows that traffic flow of Repulse Bay is highest in June, which is some 101% of the annual average for both weekday and weekend (Saturday), and the traffic flow in January is some 99% of the annual average on weekday, and 100% of the annual average on Saturday.

2.25 Since traffic condition in Repulse Bay is the busiest during the summer period, and in view the traffic surveys were carried out in January, a seasonal adjustment factor of 1.05 [*Calculation: $101\% \div 99\% = 1.02$ and $100\% \div 99\% = 1.01$, hence say 1.05 for both to be conservative*] is applied to the observed traffic flow to take into account the seasonal variation.

2.26 **Figures 2.13 and 2.14** present the adjusted existing AM and PM peak hour traffic flows established in pcu/hour for a weekday and a weekend respectively.

Performance of the Surveyed Junctions

2.27 Performance of surveyed junctions were calculated based on the existing traffic flows and the analysis was undertaken using the methods outlined in Volume 2 of the Transport Planning and Design Manual ("TPDM"), which is published by the Transport Department. Table 2.5 presents the results and detailed calculations are found in **Appendix B**.

TABLE 2.5 EXISTING PEAK HOUR JUNCTION PERFORMANCE

Ref.	Junction	Type	Parameter	AM Peak Hour	PM Peak Hour
Weekday					
J01	J/O Repulse Bay Road / Beach Road	Priority	RFC	0.102	0.056
J02	J/O Beach Road / South Bay Path	Priority	RFC	0.043	0.073
J03	J/O South Bay Road / Beach Road	Priority	RFC	0.118	0.132
J04	J/O South Bay Road / South Bay Path	Priority	RFC	0.246	0.300
J05	J/O Repulse Bay Road / South Bay Road	Roundabout	RFC	0.613	0.573
J06	J/O South Bay Road / South Bay Close	Roundabout	RFC	0.189	0.249
Weekday					
J01	J/O Repulse Bay Road / Beach Road	Priority	RFC	0.102	0.056
J02	J/O Beach Road / South Bay Path	Priority	RFC	0.043	0.073
J03	J/O South Bay Road / Beach Road	Priority	RFC	0.118	0.132
J04	J/O South Bay Road / South Bay Path	Priority	RFC	0.246	0.300
J05	J/O Repulse Bay Road / South Bay Road	Roundabout	RFC	0.613	0.573
J06	J/O South Bay Road / South Bay Close	Roundabout	RFC	0.189	0.249

Note: RFC – Ratio of Flow to Capacity

- 2.28 The results in Table 2.5 indicates that the junctions analyzed operate with capacity during the weekday and weekend peak hours.

Existing Pedestrian Flow

- 2.29 To quantify the existing pedestrian flows, pedestrian counts were conducted during the AM and PM peak periods on Friday, 10th January 2025, and Saturday, 11th January 2025, at the selected footpaths within the Area of Influence ("AOI"). The surveyed footpaths are found in Table 2.6, and their locations are illustrated in **Figure 2.15**.

TABLE 2.6 LIST OF SURVEYED FOOTPATHS

Ref.	Surveyed Footpaths
FP01	Stairway between Repulse Bay Road and Beach Road
FP02	Southern Footpath of Beach Road (outside Seaview Building)
FP03	Southern Footpath of Beach Road (outside Car Park / Repulse Bay Beach Building)
FP04	Northern Footpath of Beach Road (outside Beach Centre)
FP05	Southern Footpath of Beach Road (opposite South Bay Path)
FP06	Southern Footpath of Beach Road (opposite 49/53/55 Beach Road))
FP07	Northern Footpath of Beach Road (south of South Bay Road)
FP08	Footpath along Repulse Bay Beach (near Repulse Bay Beach Building)
FP09	Footpath along Repulse Bay Beach (outside the Subject Site)

Seasonal Adjustment

- 2.30 Visitor record of the retail space of the Existing Development at 1/F and UG/F, during the winter period between December 2023 and February 2024 and for the summer period between May 2024 and August 2024, provided by the Applicant, are presented in Table 2.7.

TABLE 2.7 VISITOR RECORD OF THE RETAIL SPACE OF THE EXISTING DEVELOPMENT AT 1/F AND UG/F

Category	Winter Period				Summer Period				Minimum of Winter [a]	Maximum of Summer [b]	Seasonal Factor [b]/[a]
	Nov. 2023	Dec. 2023	Jan. 2024	Feb. 2024	May 2024	Jun 2024	Jul 2024	Aug 2024			
	Average Daily Visitors (1200 to 1900 hours)										
Weekday	133	123	119	134	103	124	153	147	119	153	1.3
Weekend	386	283	256	255	399	287	284	266	255	399	1.6

Note: Weekend includes Saturday, Sunday and Public Holidays.

2.31 Table 2.7 shows the number of visitors on a weekday during the summer period could be 1.3 times more than during winter period; whereas during weekend, the number of visitors could be 1.6 times higher.

2.32 In view the pedestrian surveys were conducted in January during winter period, to be conservative, a seasonal adjustment factor of 2 (Note: higher than 1.6 as reported in Table 2.7) is applied to the observed pedestrian flow to establish the existing pedestrian flows for both weekday and weekend.

Performance of the Surveyed Footpaths

2.33 Level-of-Service ("LOS") analysis was conducted, and the LOS grading follows TPDM Volume 6, Section 10.4. Table 2.8 summarize the pedestrian flows, and analysis results.

TABLE 2.8 EXISTING FOOTPATH OPERATIONAL PERFORMANCE

Footpath Section	Measured Width (m)	Effective Width (m)	AM Peak Hour		PM Peak Hour	
			2-way Pedestrian Flow (ped/hour)	Flow Rates [LOS] (ped/m/min)	2-way Pedestrian Flow (ped/hour)	Flow Rates [LOS] (ped/m/min)
Weekday						
FP01	3.5m	2.5m	288	2.7 [A]	412	1.9 [A]
FP02	2.5m	1.5m	252	3.0 [A]	266	2.8 [A]
FP03	3.0m	2.0m	176	1.4 [A]	172	1.5 [A]
FP04	1.8m	0.8m	124	0.8 [A]	36	2.6 [A]
FP05	2.8m	1.8m	170	1.7 [A]	186	1.6 [A]
FP06	1.8m	0.8m	108	1.9 [A]	90	2.3 [A]
FP07	1.5m	1.0m	20	0.1 [A]	4	0.3 [A]
FP08	4.0m	3.0m	250	3.0 [A]	546	1.4 [A]
FP09	3.5m	3.0m	208	2.7 [A]	486	1.2 [A]
Weekend						
FP01	3.5m	2.5m	222	1.5 [A]	980	6.5 [A]
FP02	2.5m	1.5m	438	4.9 [A]	678	7.5 [A]
FP03	3.0m	2.0m	246	2.1 [A]	350	2.9 [A]
FP04	1.8m	0.8m	128	2.7 [A]	100	2.1 [A]
FP05	2.8m	1.8m	300	2.8 [A]	364	3.4 [A]
FP06	1.8m	0.8m	220	4.6 [A]	120	2.5 [A]
FP07	1.5m	1.0m	30	0.5 [A]	12	0.2 [A]
FP08	4.0m	3.0m	366	2.0 [A]	1,122	6.2 [A]
FP09	3.5m	3.0m	326	1.8 [A]	944	5.2 [A]

2.34 Table 2.8 shows the footpaths analyzed operate with capacity during the weekday and weekend peak hours.

3.0 THE PROPOSED CONVERSION

The Proposed Conversion

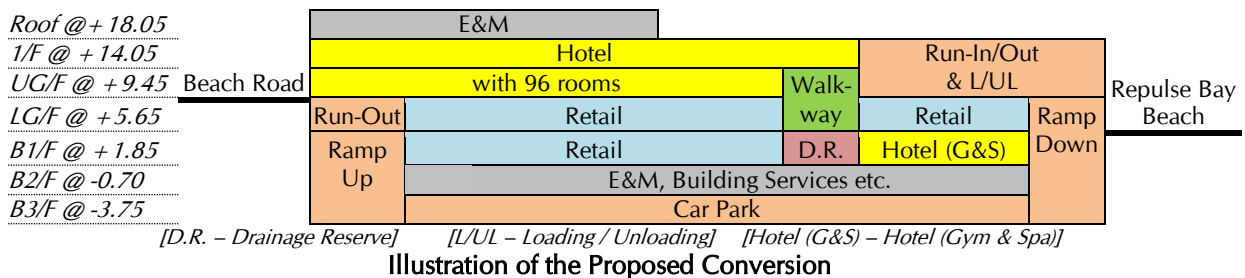
- 3.1 The Proposed Conversion involves changing some existing 7,887m² retail GFA to become a hotel with 96 rooms at 1/F and UG/F. In addition, the existing changing rooms at B1/F will also be converted into an ancillary gym and spa for the hotel. Whereas, the existing retail use on LG/F and B1/F will remain.
- 3.2 Table 3.1 compares the development parameters for the Existing Development and the Proposed Conversion

TABLE 3.1 COMPARISON ON DEVELOPMENT PARAMETERS

Use	Existing Development	Proposed Conversion	Difference
Retail	13,728m ² GFA (1/F, UG/F, LG/F, B1/F, and B2/F)	About 5,841m ² GFA (LG/F, B1/F [Part] and B2/F@)	-7,887m ² GFA
Hotel	-	96 rooms with GFA of about 6,590m ² (1/F, UG/F and B1/F [Part])	+96 rooms (+about 6,590m ² GFA)
TOTAL	13,728m² GFA	About 12,431m² GFA	-1,297m² GFA

@ According to the approved GBP, there are some existing E&M facilities on B2/F that are GFA accountable. While the current proposal does not involve any conversion on B2/F, for the purpose of technical assessment, such GFA will be treated as retail.

- 3.3 For easy understanding, disposition of the Proposed Conversion is illustrated below:



Internal Transport Facilities

- 3.4 Table 3.2 compares the provision of internal transport facilities recommended by the Hong Kong Planning Standards and Guidelines ("HKPSG"), and the proposed provision.

TABLE 3.2 COMPARISON OF THE PROVISION OF INTERNAL TRANSPORT FACILITIES

Use	HKPSG Recommendation (Retail GFA = 5,841m ² GFA, and Hotel with 96 rooms)	Proposed Provision
Car Parking Spaces		
Retail	1 car parking space per 150 – 300 m ² GFA Minimum: 5,841 ÷ 300 = 19.5, say 20 nos. Maximum: 5,841 ÷ 150 = 38.9, say 39 nos.	40 nos., including: <ul style="list-style-type: none"> - 39 nos. regular @ 5.0m (L) x 2.5m (W) x min. 2.4m (H) - 1 no. accessible @ 5.0m (L) x 3.5m (W) x min. 2.4m (H) = HKPSG Maximum, OK
Hotel	1 car parking space per 100 rooms 96 ÷ 100 = 1.0, say 1 no.	
TOTAL	Minimum: 20 + 1 = 21 nos. Maximum: 39 + 1 = 40 nos.	

TABLE 3.2 COMPARISON OF THE PROVISION OF INTERNAL TRANSPORT FACILITIES (CONT'D)

Use	HKPSG Recommendation (Retail GFA = 5,841m ² GFA, and Hotel with 96 rooms)	Proposed Provision
Motorcycle Parking Spaces		
Overall	5% - 10% of car parking space provided Minimum: 40 x 5% = 2, say 2 nos. Maximum: 40 x 10% = 4, say 4 nos.	4 nos. @ 2.4m (L) x 1.0m (W) x min. 2.4m (H) = HKPSG Maximum, OK
Goods Vehicle Loading / Unloading Bays		
Retail	1 loading / unloading bay per 800 – 1,200 m ² GFA, with 35% HGV and 65% LGV Minimum: 5,841 ÷ 1,200 = 4.8, say 5 nos. Maximum: 5,841 ÷ 800 = 7.3, say 8 nos.	9 nos., including - 2 nos. HGV @ 11.0m (L) x 3.5m (W) x min. 4.7m (H), - 2 nos. LGV @ 7.0m (L) x 3.5m (W) x min. 3.6m (H), and - 5 nos. Van-type @ 5.0m (L) x 2.5m (W) x min. 2.4m (H) = HKPSG Maximum with deviation on type of bays provided, OK <i>[Remarks: Only van-type goods vehicle loading / unloading bays are provided in the Existing Development.]</i>
Hotel	0.5 – 1 loading / unloading bay per 100 rooms Minimum: 96 x 0.5 ÷ 100 = 0.5, say 1 no. Maximum: 96 x 1.0 ÷ 100 = 1.0, say 1 no.	
TOTAL	Minimum: 6 + 1 = 7 nos. HGV: 7 x 35% = 2.5, say 3 nos. LGV: 7 – 3 = 4 nos. Maximum: 8 + 1 = 9 nos. HGV: 9 x 35% = 3.2, say 4 nos. LGV: 9 – 4 = 5 nos.	
Layby for Taxi and Private Cars		
Retail	No Recommendation	2 nos. @ 5.0m (L) x 2.5m (W) x min. 2.4m (H) = HKPSG, OK
Hotel	For Taxi and Private Cars: Minimum 2 nos. for ≤299 rooms	
Layby for Single-Deck Tour Bus		
Retail	No Recommendation	1 no. @ 12.0m (L) x 3.5m (W) x min. 3.8m (H) = HKPSG, OK
Hotel	For Single-Deck Tour Bus: Minimum 1 nos. for ≤299 rooms	

Car Parking Spaces

- 3.5 Table 3.2 shows that the number of private car parking spaces provided satisfies the HKPSG maximum recommendation.

Motorcycle Parking Spaces

- 3.6 Table 3.2 also shows that the number of motorcycle parking spaces satisfies the HKPSG maximum recommendation.

- 3.7 Considering the Existing Development does not provide motorcycle parking space, the introduction of motorcycle parking spaces for the Proposed Conversion is a merit.

Goods Vehicle Loading / Unloading Bays

- 3.8 Table 3.2 shows that the number of goods vehicle loading / unloading bays provided satisfies the HKPSG maximum recommendation.

- 3.9 The Proposed Conversion offers a merit which is the introduction of HGV loading / unloadings bays, currently not provided within the Existing Development, as well as an additional LGV loading / unloading bay. To enable LGV and HGV to access the existing loading / unloading area at the Pulse, portion of the floor at 1/F will be removed as part of the Proposed Conversion in order to increase the clear headroom available.

Layby for Taxi and Private Cars

- 3.10 Table 3.2 shows that the number of layby for private car and taxi provided satisfies the HKPSG recommendation.

Layby for Single-deck Tour Bus Parking Space

- 3.11 Table 3.2 shows that the number of layby for single-deck tour bus provided satisfies the HKPSG recommendation.

Internal Transport Layout

- 3.12 **Figures 3.1 and 3.2** presents the proposed internal transport layout at UG/F and B3/F for the Proposed Conversion. The 3 existing vehicular access points at Beach Road shall remain unchanged.

- 3.13 Swept path analyses using CAD-based program were carried out to ensure ease of vehicle manoeuvring with the Proposed Conversion. No manoeuvring issue is found. The swept path analysis drawings are found in the **Appendix C**.

- 3.14 Visibility assessments meeting the requirement as stipulated in the TPDM at the 3 existing vehicular access points are performed and illustrated in **Figure 3.3**.

Traffic Generation

- 3.15 Traffic generation for the Existing Development and the Proposed Conversion are estimated based on the mean retail and hotel trip rates found in the TPDM, and are presented in below paragraphs.

Weekday Trip Generation Rates

- 3.16 Table 3.3 presents the trip generation rates for retail and hotel obtained from the TPDM for weekday AM and PM peak hour.

TABLE 3.3 WEEKDAY TRIP GENERATION RATES ADOPTED

Use	Parameter	Trip Generation Rate			
		AM Peak Hour		PM Peak Hour	
		Generation	Attraction	Generation	Attraction
Retail	pcu/100m ² /hr	0.2296	0.2434	0.3100	0.3563
Hotel	pcu/room/hr	0.1329	0.1457	0.1290	0.1546

Weekend Trip Generation Rates

- 3.17 In view the TPDM has no weekend trip generation rates for retail and hotel uses, the weekend trip generation rates are produced with reference to the weekday TPDM trip generation rates and the weekend / weekday factor derived from surveys conducted at the Existing Development, and at the WM Hotel, located at 28 Wai Man Road, Sai Kung, which has 260 rooms. The traffic generation surveys were conducted on Friday, 10th January 2025, and on Saturday, 11th January 2025.

3.18 Similar to the Subject Site, the WM Hotel is also located remotely in a leisure area. Though the WM Hotel provides free shuttle bus service, the service is infrequent with headway of 75-minute with a total of only 6 return trips daily. The carrying capacity is also limited at no more than 30 passengers per trip. Hence, it is opined that the free shuttle service has no significant effect on the traffic and pedestrian generation.

3.19 In January 2025, about 80% of the shops at the Existing Development are occupied; and with reference to the "Hotel Room Occupancy Report" published by Hong Kong Tourism Board, 93% of hotel rooms in the New Territories were occupied.

3.20 Results of the trip generation surveys are summarised in Tables 3.4 and 3.5.

TABLE 3.4 RESULTS OF TRIP GENERATION SURVEYS AT THE EXISTING DEVELOPMENT

Development	AM Peak hour				PM Peak Hour			
	Generation (pcu/hour)		Attraction (pcu/hour)		Generation (pcu/hour)		Attraction (pcu/hour)	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
Existing Development	2	4	8	10	12	17	10	14
Weekend / Weekday Ratio	2.000		1.250		1.417		1.400	

TABLE 3.5 RESULTS OF TRIP GENERATION SURVEYS AT THE WM HOTEL

Development	AM Peak hour				PM Peak Hour			
	Generation (pcu/hour)		Attraction (pcu/hour)		Generation (pcu/hour)		Attraction (pcu/hour)	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
WM Hotel	15	22	27	36	29	46	37	54
Weekend / Weekday Ratio	1.467		1.333		1.586		1.459	

3.21 The weekend trip generation rates derived from the weekend / weekday ratios found in Table 3.4 and 3.5, are presented in Table 3.6.

TABLE 3.6 WEEKEND TRIP GENERATION RATES ADOPTED

Use	Parameter	Trip Generation Rates (Table 3.3 x Table 3.6)			
		AM Peak Hour		PM Peak Hour	
		Generation	Attraction	Generation	Attraction
Retail	pcu/100m ² /hr	0.4592	0.3043	0.4393	0.4988
Hotel	pcu/room/hr	0.1950	0.1942	0.2046	0.2256

Net Change in Traffic Generation

3.22 Tables 3.7 and 3.8 show the net change in calculated weekday and weekend traffic generation between the Existing Development and Proposed Conversion.

TABLE 3.7 NET CHANGE IN WEEKDAY TRAFFIC GENERATION

Use	Trip Generation (pcu/hour)					
	AM Peak Hour			PM Peak Hour		
	Generation	Attraction	2-Way	Generation	Attraction	2-Way
Existing Development (13,728m² Retail GFA)						
Retail	32	33	65	43	49	92
Total [a]	32	33	65	43	49	92
Proposed Conversion (5,841m² Retail GFA and 96-room Hotel)						
Retail	13	14	27	18	21	39
Hotel	13	14	27	12	15	27
Total [b]	26	28	54	30	36	66
Net Change in Traffic Generation						
Net Change [b] – [a]	-6	-5	-11	-13	-13	-26

TABLE 3.8 NET CHANGE IN WEEKEND TRAFFIC GENERATION

Use	Trip Generation (pcu/hour)					
	AM Peak Hour			PM Peak Hour		
	Generation	Attraction	2-Way	Generation	Attraction	2-Way
Existing Development (13,728m² Retail GFA)						
Retail	63	42	105	60	68	128
Total [a]	63	42	105	60	68	128
Proposed Conversion (5,841m² Retail GFA and 96-room Hotel)						
Retail	27	18	45	26	29	55
Hotel	19	19	38	20	22	42
Total [b]	46	37	83	46	51	97
Net Change in Traffic Generation						
Net Change [b] – [a]	-17	-5	-22	-14	-17	-31

- 3.23 Table 3.7 shows that the Proposed Conversion is expected to generate some 11 pcu (2-way) **less** during the weekday AM peak hour, and some 26 pcu (2-way) **less** during the PM peak hour. Table 3.8 shows that the Proposed Conversion is expected to generate some 22 pcu (2-way) **less** during the weekend AM peak hour, and some 31 pcu (2-way) **less** during the PM peak hour.

Pedestrian Generation

- 3.24 To derive the pedestrian generation rates for the hotel associated with the Proposed Conversion, pedestrian generation surveys at the WM Hotel carried in January 2025, and additional results of pedestrian generation surveys and derived rates from the CKM in-house database are referenced.
- 3.25 Details of the surveyed hotels are presented in Table 3.10.

TABLE 3.9 DETAILS OF THE SURVEYED HOTELS

Hotel Address	No. of Rooms	Survey Date
28 Wai Man Road, Sai Kung	260	January 2025
3 Kau U Fong, Central	162	March 2018
263 Hollywood Road, Central	142	March 2018

3.26 Although 2 of the above surveyed hotels are located in Central and Western District where there is convenient access to public transport services, the pedestrian generations of these 2 hotels are expected to be higher in general; and in view that the pedestrian generation rates are relatively higher, the analysis conducted would give more conservative results.

3.27 According to the "Hotel Room Occupancy Report" published by Hong Kong Tourism Board, 91% of hotel rooms in Central and Western District were occupied in March 2018 when the surveys were carried out; and 93% of hotel rooms the New Territories were occupied in January 2025.

3.28 Tables 3.10 and 3.11 summarise the results of weekday and weekend pedestrian surveys, and the derived generation rates respectively.

**TABLE 3.10 RESULTS OF WEEKDAY PEDESTRIAN GENERATION SURVEYS
AND DERIVED PEDESTRIAN GENERATION RATES**

Period	AM Peak Hour		PM Peak Hour	
	Generation	Attraction	Generation	Attraction
Pedestrian Generation (ped / hour)				
28 Wai Man Road, Sai Kung	9	8	47	68
3 Kau Yue Fong, Central	18	51	28	54
263 Hollywood Road, Central	13	36	39	15
Pedestrian Generation Rates (ped / hour / room)				
28 Wai Man Road, Sai Kung (260 rooms)	0.0346	0.0308	0.1808	0.2615
3 Kau Yue Fong, Central (162 rooms)	0.1111	0.3148	0.1728	0.3333
263 Hollywood Road, Central (142 rooms)	0.0915	0.2535	0.2746	0.1056

**TABLE 3.11 RESULTS OF WEEKEND PEDESTRIAN GENERATION SURVEYS
AND DERIVED PEDESTRIAN GENERATION RATES**

Period	AM Peak Hour		PM Peak Hour	
	Generation	Attraction	Generation	Attraction
Pedestrian Generation (ped / hour)				
28 Wai Man Road, Sai Kung	13	10	81	128
3 Kau Yue Fong, Central	20	58	33	48
263 Hollywood Road, Central	15	42	45	38
Pedestrian Generation Rates (ped / hour / room)				
28 Wai Man Road, Sai Kung (260 rooms)	0.0500	0.0385	0.3115	0.4923
3 Kau Yue Fong, Central (162 rooms)	0.1235	0.3580	0.2037	0.2963
263 Hollywood Road, Central (142 rooms)	0.1056	0.2958	0.3169	0.2676

3.29 To err on the high side, the highest pedestrian generation rates presented in Tables 3.10 and 3.11 were adopted. Table 3.12 summarises the adopted pedestrian generation rates and the estimated pedestrian generation for the Proposed Conversion.

TABLE 3.13 PEDESTRIAN GENERATION OF PROPOSED CONVERSION

Period	AM Peak Hour		PM Peak Hour	
	Generation	Attraction	Generation	Attraction
Adopted Pedestrian Generation Rates (ped / hour / room)				
Weekday	0.1111	0.3148	0.2746	0.3333
Weekend	0.1235	0.3580	0.3169	0.4923
Pedestrian Generation (ped / hour)				
Weekday	11	30	26	32
Weekend	12	34	30	47

Note: Proposed Conversion has 96 rooms, i.e. Pedestrian Generation = Pedestrian Generation Rates x 96 rooms.

Proposed Traffic Management

3.30 To further reduce the traffic impact on Beach Road associated with the Proposed Conversion, the Applicant will undertake implementation of the following traffic management measures:

(i) Recommended Access Route

3.31 The Applicant will publicise the recommended access route on the official website, i.e. to use South Bay Road and South Bay Path. This measure aims to discourage vehicles from entering directly from Repulse Bay Road to Beach Road; hence, reducing traffic flow along Beach Road.

(ii) Use of Coach Layby

3.32 The Proposed Conversion has only 96 rooms, and is a high tariff luxury accommodation at the Repulse Bay Beach. Hence, the number of tour groups is negligible. Therefore, the use of coach by hotel guests is expected to be rare.

3.33 Nevertheless, the hotel operator will coordinate with group booking, if any, and confirm the mode of transport used, i.e. coach or mini-coach, the expected arrival and departure times, and the number of guests. Hence, advance arrangement can be made so that only 1 coach or mini-coach would use the lay-by.

3.34 Hotel staff will be stationed at the coach layby to direct guests to the hotel lobby and not wait at the layby or the adjoining public footpath. In addition, hotel staff will also direct all guests to wait within the hotel lobby, and only proceed to the coach layby after the vehicle has arrived.

(iii) Use of Goods Vehicles Loading / Unloading Bays

3.35 As in the existing condition, there is no barrier gate to restrict vehicles from entering the loading / unloading area at UG/F from Beach Road, and this operational condition shall be maintained. In addition, vehicles manoeuvring within the loading / unloading area shall be closely monitored by the management office; hence, incoming vehicles queue back onto Beach Road is not anticipated.

3.36 The management office will request all shop tenants and the hotel operator to carry out loading / unloading during the off-peak period, i.e. weekday and only during the early morning on weekend and public holidays.

3.37 The Proposed Conversion will increase the provision on goods loading / unloading bays to meet the HKPSG recommendation, but the retail GFA compared to the Existing Development, is substantially reduced. Hence, the demand for goods loading / unloading is expected to reduce accordingly. Therefore, the operational of the loading / unloading bays is expected to improve compared to the existing condition.

(iv) *Use of Taxi / Private Car Layby*

3.38 The taxi / private car layby at UG/F will be designated for use by taxis only; all private car pick-up / drop-off will be directed to use the laybys at B3/F. Hence, the possibility of stopped vehicles at taxi / private car layby interfering with the operation of the loading / unloading bays is minimised.

4.0 TRAFFIC IMPACT

Design Year

- 4.1 The Proposed Conversion is anticipated to complete in 2027 and the design year adopted for this traffic study is 2030, i.e. 3 years after completion.

Historic Traffic Growth

- 4.2 Table 4.1 presents the historic annual average daily traffic ("AADT") from the Annual Traffic Census ("ATC") published by the Transport Department for roads located nearby for the latest 5 years, i.e. from 2019 to 2023.

TABLE 4.1 AADT OF ATC STATIONS LOCATED NEAR THE SUBJECT SITE

Station No.	1011	1245	1835	2603	OVERALL
Road	Repulse Bay Road & Stanley Gap Road	Repulse Bay Road	Repulse Bay Road	Beach Road	
From	South Bay Road	Wong Nai Chung Gap Road	Island Road	Repulse Bay Road	
To	Tai Tam Road	Island Road	South Bay Road	South Bay Road	
Year	Annual Average Daily Traffic (vehicles / day)				
2019	15,490	9,020	21,890	2,890	49,290
2020	14,340	8,480	21,150	2,560	46,530
2021	15,680	8,810	22,730	2,910	50,130
2022	14,930	8,080	21,390	3,000	47,400
2023	15,230	8,030	21,870	3,020	48,150
Average Annual Growth (2019 – 2023) =					-0.6%

- 4.3 Table 2.3 shows that the traffic growth in vicinity of the Subject Site is -0.6% per annum in recent years.

Population Projection

- 4.4 Reference is made to the "Projections of Population Distribution 2023 - 2031" for Southern District, published by the Planning Department and is presented in Table 4.2.

TABLE 4.2 PROJECTED POPULATION FOR SOUTHERN DISTRICT

Year	Population in Southern District
2025	259,600
2030	266,900
Average Annual Growth (2025 to 2030)	+0.6%

- 4.5 Table 4.1 shows that population in the Southern District is projected to increase by 0.6% per annum between 2025 and 2030.

Traffic Forecast

- 4.6 The design year traffic flows are estimated with reference to:
- Expected traffic growth from 2025 to 2030 with reference to the historic traffic growth from the ATC;
 - Traffic generated by other known planned / committed developments located in the vicinity, and
 - Net change in traffic generation between the Existing Development and the Proposed Conversion.

4.7 Details of the above are presented in below paragraphs.

(i) Traffic Growth Rate

4.8 With reference to Table 4.1, a conservative growth rate of 1.0% per annum is adopted to produce the 2030 traffic flows from 2025.

(ii) Other Known Planned / Committed Developments

4.9 Information on other known major planned / committed developments are summarized in Table 4.1. These are obtained from the available public domains including "Monthly Digest" published by Buildings Department, and the Town Planning Board's Statutory Planning Portal 3 by Planning Department, etc.

TABLE 4.3 DETAILS OF OTHER KNOWN MAJOR PLANNED / COMMITTED DEVELOPMENTS IDENTIFIED

Ref.	Address	Use	GFA(m ²) (Approx.)	No. of Flat / Unit
Approved General Building Plan				
A.	18A, 18B, 18C & 18D Cape Road	Residential	2,000	4
B.	22 Tung Tau Wan Road	School	11,000	-
C.	72 Repulse Bay Road	Residential	1,800	-
D.	18 Carmel Road	Residential	500	1
E.	R.B.L. 1201, Wong Ma Kok Road	Residential	20,600	86
F.	2 Headland Road	Residential	1,600	-
G.	7 Stanley Market Road / 78 & 79 Stanley Main Street	Hotel	1,000	-
H.	125 Repulse Bay Road	Residential	2,900	-
I.	3 South Bay Close	Residential	2,500	9
J.	14 Stanley Beach Road	Residential	1,100	3
Approved Planning Application				
K.	39 South Bay Road	Residential	1,300	4
L.	86 & 88 Stanley Main Street	Residential	1,400	10
M.	30 Stanley Link Road	Residential	300	3

4.10 Traffic generated by the above other known major planned / committed developments is included in the design year.

(iii) Net change in traffic generation between the Existing Development and the Proposed Conversion

4.11 The net change in peak hour traffic generation on weekday and weekend between the Existing Development and the Proposed Conversion presented in Tables 3.8 and 3.9 are added to the 2030 traffic flow.

Year 2030 Traffic Flows

4.12 The future traffic flows are derived as follow:

2030 Traffic Flows without the Proposed Conversion [A] = 2025 Existing Traffic Flows + Total Traffic Growth from 2025 to 2030 + Traffic Generated by Other Developments

2030 Traffic Flows with the Proposed Conversion = [A] + Net change in Traffic Generation between the Existing Development and the Proposed Conversion

- 4.13 **Figures 4.1 and 4.2** shows the year 2030 weekday and weekend peak hour traffic flows without the Proposed Conversion; and **Figures 4.3 and 4.4** shows the year 2030 weekday and weekend peak hour traffic flows with the Proposed Conversion.

Year 2030 Junction Capacity Analyses

- 4.14 Year 2030 junction capacity analyses for the cases without and with the Proposed Conversion are summarised in Table 4.4 and detailed calculations are found in the **Appendix B**.

TABLE 4.4 YEAR 2030 PEAK HOUR JUNCTION PERFORMANCE

Ref.	Junction	Type	Parameter	Without the Proposed Conversion		With the Proposed Conversion	
				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Weekday							
J01	J/O Repulse Bay Road / Beach Road	Priority	RFC	0.109	0.059	0.109	0.059
J02	J/O Beach Road / South Bay Path	Priority	RFC	0.045	0.076	0.037	0.057
J03	J/O South Bay Road / Beach Road	Priority	RFC	0.125	0.139	0.116	0.119
J04	J/O South Bay Road / South Bay Path	Priority	RFC	0.259	0.316	0.258	0.314
J05	J/O Repulse Bay Road / South Bay Road	Roundabout	RFC	0.649	0.603	0.647	0.595
J06	J/O South Bay Road / South Bay Path	Roundabout	RFC	0.199	0.263	0.195	0.254
Weekend							
J01	J/O Repulse Bay Road / Beach Road	Priority	RFC	0.081	0.122	0.081	0.122
J02	J/O Beach Road / South Bay Path	Priority	RFC	0.036	0.066	0.029	0.041
J03	J/O South Bay Road / Beach Road	Priority	RFC	0.100	0.173	0.074	0.151
J04	J/O South Bay Road / South Bay Path	Priority	RFC	0.301	0.404	0.299	0.402
J05	J/O Repulse Bay Road / South Bay Road	Roundabout	RFC	0.460	0.544	0.456	0.534
J06	J/O South Bay Road / South Bay Path	Roundabout	RFC	0.252	0.293	0.240	0.284

Note: RFC – Ratio of Flow to Capacity

- 4.15 Table 4.4 shows that the analyzed junctions will have capacity to accommodate the expected traffic growth to Year 2030 and the expected change in traffic generation between the Existing Development and the Proposed Conversion.

Pedestrian Forecast

- 4.16 The design year pedestrian flows are estimated with reference to:
- Expected population growth from 2025 to 2030 with reference to the project population change in Southern District;
 - Pedestrian generation of the Proposed Conversion.
- 4.17 Details of the above are presented in below paragraphs.

(i) Pedestrian Growth Rate

- 4.18 With reference to Table 4.2, a conservative growth rate of 1.0% per annum is adopted to produce the 2030 traffic flows from 2025.

(ii) Pedestrian Generation of the Proposed Conversion

- 4.19 Peak hour pedestrian generation on weekday and weekend for the Proposed Conversion presented in Table 3.13 are added to the 2030 pedestrian flow. It should be noted that pedestrian generations of the Existing Development are not subtracted from the future pedestrian forecast providing more conservative analyses.

Year 2030 Pedestrian Flows

- 4.20 The future pedestrian flows are derived as follow:

$$2030 \text{ Pedestrian Flows without the Proposed Conversion [A]} = 2025 \text{ Existing Pedestrian Flows} + \text{Total Pedestrian Growth from 2025 to 2030}$$

$$2030 \text{ Pedestrian Flows with the Proposed Conversion} = [A] + \text{Pedestrian Generation of the Proposed Conversion}$$

Year 2030 Footpath Operational Performance

- 4.21 Year 2030 peak hour footpath operational performance are calculated and summarised in Table 4.5

TABLE 4.5 YEAR 2030 PEAK HOUR FOOTPATH PERFORMANCE

Pedestrian Facilities	Actual Width (m)	Effective Width (m)	Without the Proposed Conversion				With the Proposed Conversion			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Ped. Flow (p/hr)	Flow Rate (p/hr/m) [LOS]	Ped. Flow (p/hr)	Flow Rate (p/hr/m) [LOS]	Ped. Flow (p/hr)	Flow Rate (p/hr/m) [LOS]	Ped. Flow (p/hr)	Flow Rate (p/hr/m) [LOS]
Weekday										
FP01	3.5m	2.5m	302	2.0 [A]	433	2.9 [A]	343	2.3 [A]	491	3.3 [A]
FP02	2.5m	1.5m	265	2.9 [A]	279	3.1 [A]	270	3.0 [A]	292	3.2 [A]
FP03	3.0m	2.0m	185	1.5 [A]	181	1.5 [A]	206	1.7 [A]	210	1.8 [A]
FP04	1.8m	0.8m	130	2.7 [A]	38	0.8 [A]	130	2.7 [A]	38	0.8 [A]
FP05	2.8m	1.8m	179	1.7 [A]	196	1.8 [A]	220	2.0 [A]	254	2.4 [A]
FP06	1.8m	0.8m	113	2.4 [A]	95	2.0 [A]	113	2.4 [A]	95	2.0 [A]
FP07	1.5m	1.0m	22	0.4 [A]	4.0	0.1 [A]	22	0.4 [A]	4	0.1 [A]
FP08	4.0m	3.0m	263	1.5 [A]	573	3.2 [A]	263	1.5 [A]	573	3.2 [A]
FP09	3.5m	3.0m	218	1.2 [A]	510	2.8 [A]	238	1.3 [A]	539	3.0 [A]

- FP01 - Stairway between Repulse Bay Road and Beach Road
 FP02 - Southern Footpath of Beach Road (outside Seaview Building)
 FP03 - Southern Footpath of Beach Road (outside Car Park / Repulse Bay Beach Building)
 FP04 - Northern Footpath of Beach Road (outside Beach Centre)
 FP05 - Southern Footpath of Beach Road (opposite South Bay Path)
 FP06 - Southern Footpath of Beach Road (opposite 49/53/55 Beach Road)
 FP07 - Northern Footpath of Beach Road (south of South Bay Road)
 FP08 - Footpath along Repulse Bay Beach (near Repulse Bay Beach Building)
 FP09 - Footpath along Repulse Bay Beach (outside the Subject Site)

TABLE 4.5 YEAR 2030 FOOTPATH OPERATIONAL PERFORMANCE (CONT'D)

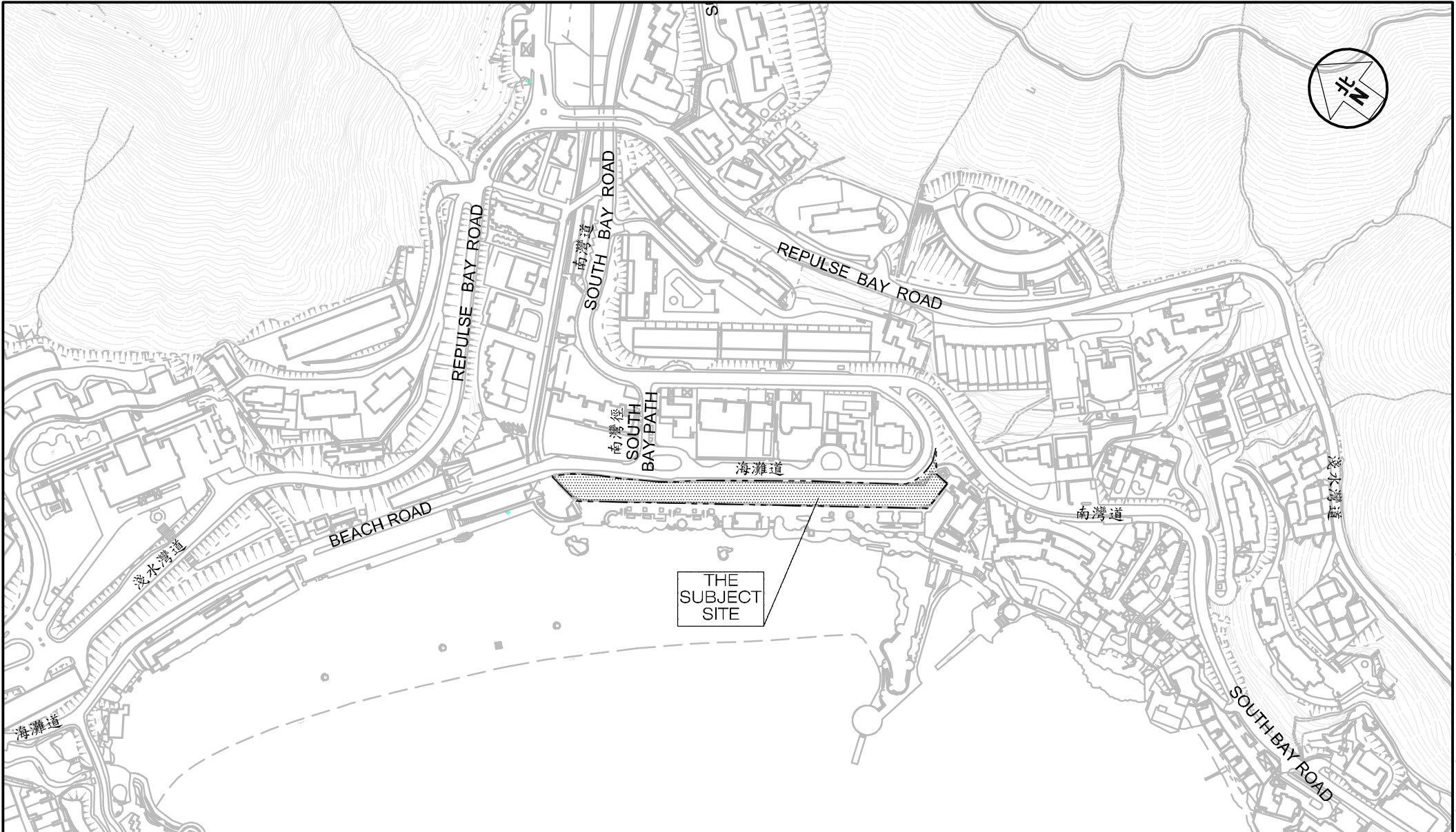
Pedestrian Facilities	Actual Width (m)	Effective Width (m)	Without the Proposed Conversion				With the Proposed Conversion			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Ped. Flow (p/hr)	Flow Rate (p/hr/m) [LOS]	Ped. Flow (p/hr)	Flow Rate (p/hr/m) [LOS]	Ped. Flow (p/hr)	Flow Rate (p/hr/m) [LOS]	Ped. Flow (p/hr)	Flow Rate (p/hr/m) [LOS]
Weekend										
FP01	3.5m	2.5m	234	1.6 [A]	1,031	6.9 [A]	280	1.9 [A]	1,108	7.4 [A]
FP02	2.5m	1.5m	460	5.1 [A]	712	7.9 [A]	466	5.2 [A]	727	8.1 [A]
FP03	3.0m	2.0m	259	2.2 [A]	367	3.1 [A]	282	2.4 [A]	406	3.4 [A]
FP04	1.8m	0.8m	134	2.8 [A]	105	2.2 [A]	134	2.8 [A]	105	2.2 [A]
FP05	2.8m	1.8m	317	2.9 [A]	383	3.5 [A]	363	3.4 [A]	460	4.3 [A]
FP06	1.8m	0.8m	231	4.8 [A]	126	2.6 [A]	231	4.8 [A]	126	2.6 [A]
FP07	1.5m	1.0m	31	0.5 [A]	12	0.2 [A]	31	0.5 [A]	12	0.2 [A]
FP08	4.0m	3.0m	385	2.1 [A]	1,178	6.5 [A]	385	2.1 [A]	1,178	6.5 [A]
FP09	3.5m	3.0m	343	1.9 [A]	992	5.5 [A]	366	2.0 [A]	1,030	5.7 [A]

- FP01 - Stairway between Repulse Bay Road and Beach Road
 FP02 - Southern Footpath of Beach Road (outside Seaview Building)
 FP03 - Southern Footpath of Beach Road (outside Car Park / Repulse Bay Beach Building)
 FP04 - Northern Footpath of Beach Road (outside Beach Centre)
 FP05 - Southern Footpath of Beach Road (opposite South Bay Path)
 FP06 - Southern Footpath of Beach Road (opposite 49/53/55 Beach Road)
 FP07 - Northern Footpath of Beach Road (south of South Bay Road)
 FP08 - Footpath along Repulse Bay Beach (near Repulse Bay Beach Building)
 FP09 - Footpath along Repulse Bay Beach (outside the Subject Site)

4.22 Table 4.5 shows that the analyzed footpaths will have capacity to accommodate the expected pedestrian growth to Year 2030 and the expected pedestrian generation of the Proposed Conversion.

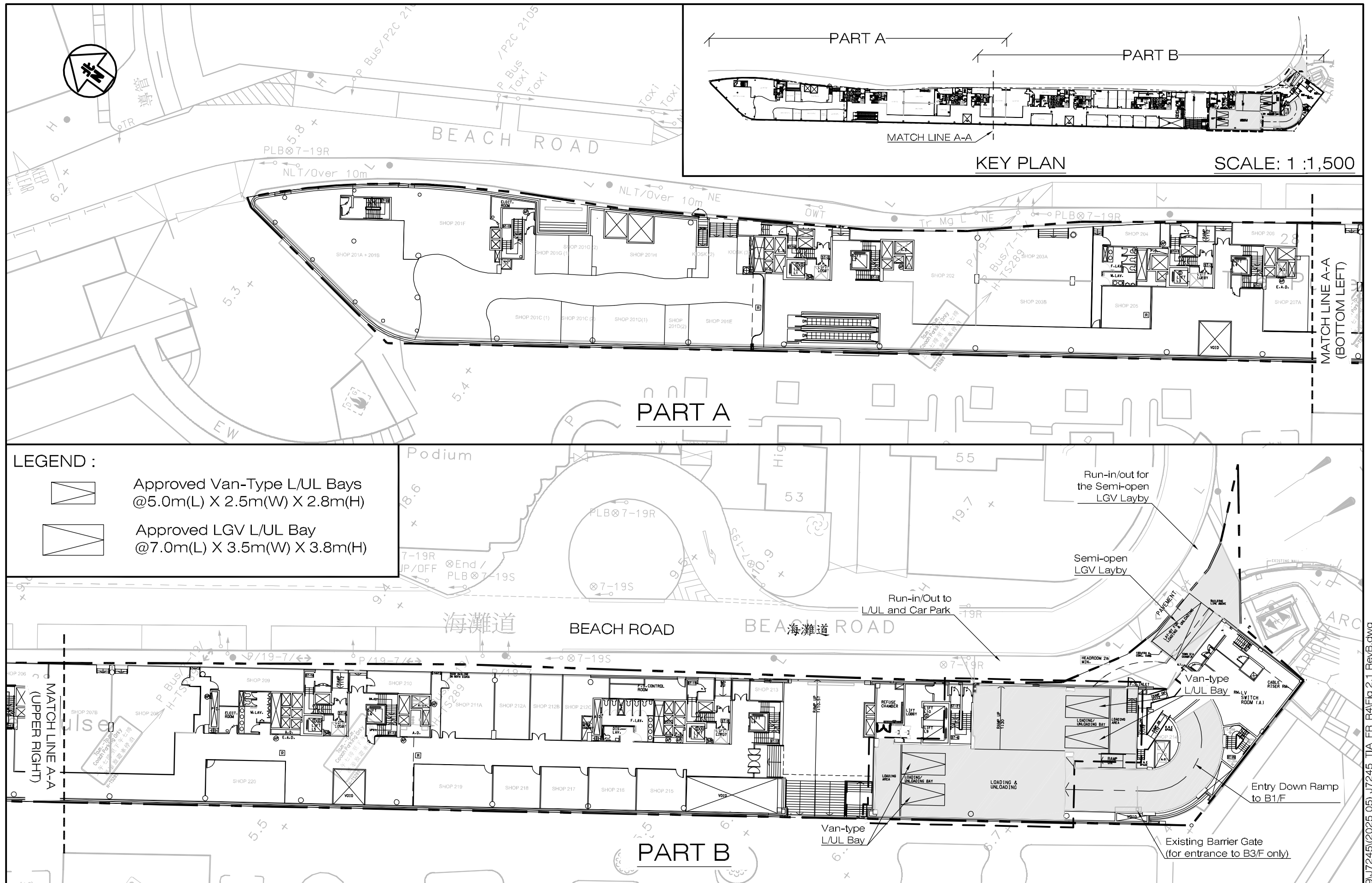
5.0 SUMMARY

- 5.1 The Owner intends to convert the 1/F, UG/F and B1/F [part] of the Existing Development into a hotel with 96-room, and hence, retail GFA will be reduced substantially from existing 13,728 m² to become 5,841m².
- 5.2 The Proposed Conversion provides internal transport facilities in accordance to the HKPSG recommendation, including:
- 40 nos. car parking spaces,
 - 4 nos. motorcycle parkings,
 - 9 nos. goods vehicle loading / unloading bays,
 - 2 nos. laybys for taxi and private cars, and
 - 1 no. layby for single deck tour bus.
- 5.3 The Existing Development provides limited number and type of goods vehicle loading / unloading bays, i.e. van-type goods vehicles, and LGV only. With the Proposed Conversion, modification will be undertaken to provide sufficient headroom for LGV and HGV loading / unloading bays, and layby for single deck tour bus.
- 5.4 Manual classified counts were conducted at junctions located in the vicinity of the Subject Site during the weekday and weekend AM and PM peak hours. Capacity analyses found that these junctions operate with capacity.
- 5.5 Pedestrian counts were conducted at footpaths located in the vicinity during the weekday and weekend AM and PM peak hours. Capacity analyses found that these footpaths operate with capacity.
- 5.6 Weekday and weekend peak hour traffic generation for the Existing Development and the Proposed Conversion are estimated, and found that the Proposed Conversion will have negligible change in traffic generation comparing with the Existing Development. The future year junction capacity analyses found that the Proposed Conversion will not have adverse effect on the local road network.
- 5.7 Weekday and weekend peak hour pedestrian generation the Proposed Conversion are estimated. The future year footpath capacity analyses found that the Proposed Conversion will not have adverse effect on the local pedestrian network
- 5.8 From traffic engineering grounds, the Proposed Conversion is acceptable.



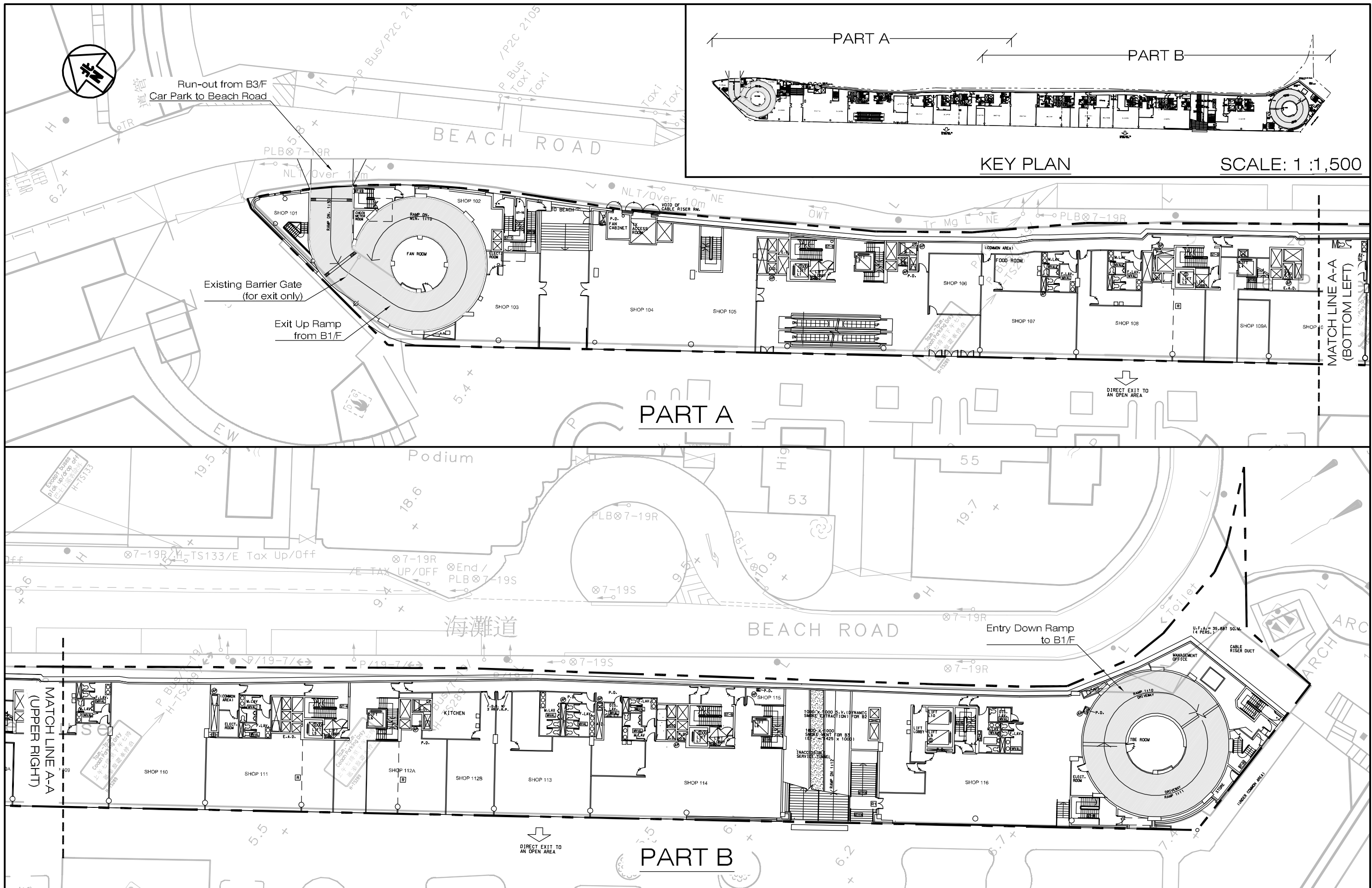
Project Title				PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY				Figure No.		Revision		<div>CKM Asia Limited</div> <div>Traffic and Transportation Planning Consultants</div> <div>21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong</div> <div>Tel : (852) 2520 5990 Fax : (852) 2528 6343</div> <div>Email : mail@ckmasia.com.hk</div>		
				J7245				1.1		B				
Figure Title				LOCATION OF THE SUBJECT SITE				Designed by		Drawn by			Checked by	
								W C H		S C Y			K C	
								Scale in A4		Date				
								1 : 3,500		12 MAY 2025				

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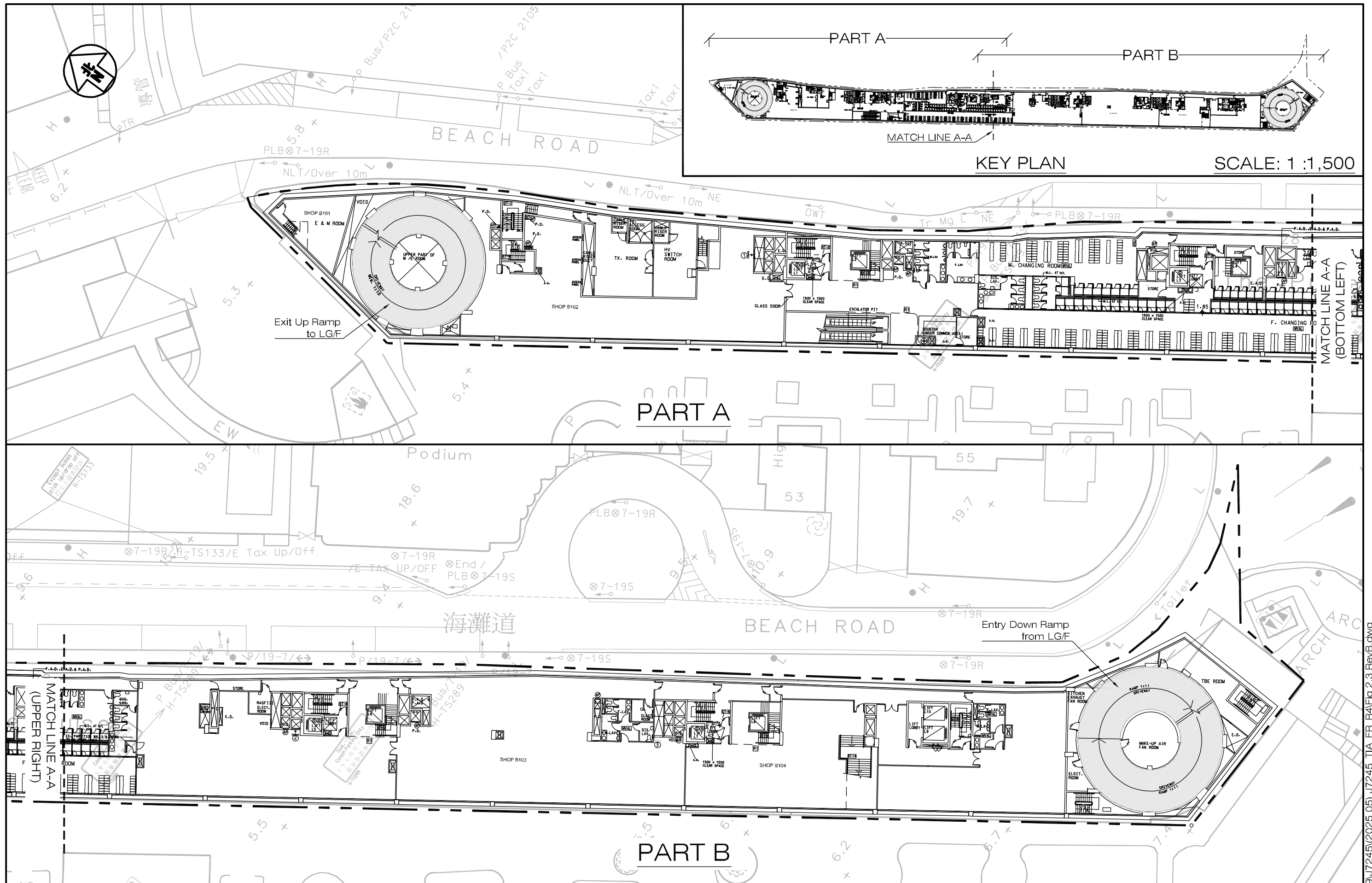
Project Title		PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY				Figure No. 2.1		Revision B		CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk			
Figure Title		APPROVED UG/F LAYOUT OF THE EXISTING DEVELOPMENT				Designed by W C H		Drawn by S C Y				Checked by K C	
						Scale in A3 1 : 400		Date 12 MAY 2025					

T:\JOB\J7200-J7249\J7245(2025 05) J7245_TIA_FR_R4\Fig 2.1 RevB.dwg



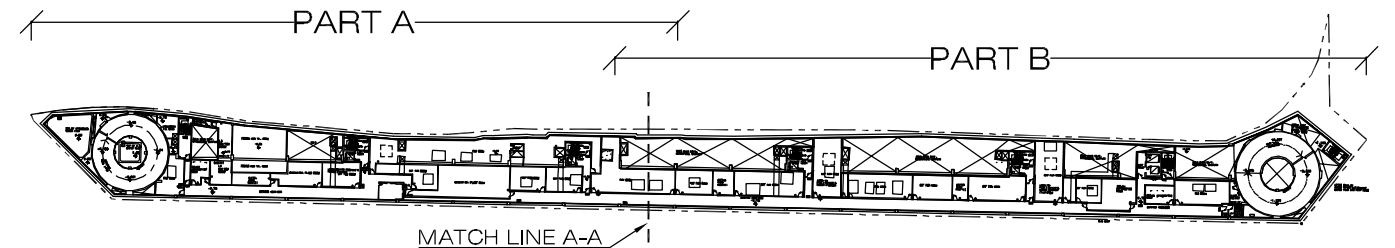
Project Title		PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY			Figure No.		Revision		CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Henncssy Road Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk		
		J7245			2.2		B				
Figure Title		APPROVED LG/F LAYOUT OF THE EXISTING DEVELOPMENT			Designed by		Drawn by			Checked by	
					W C H		S C Y			K C	
					Scale in A3		Date				
					1 : 400		12 MAY 2025				

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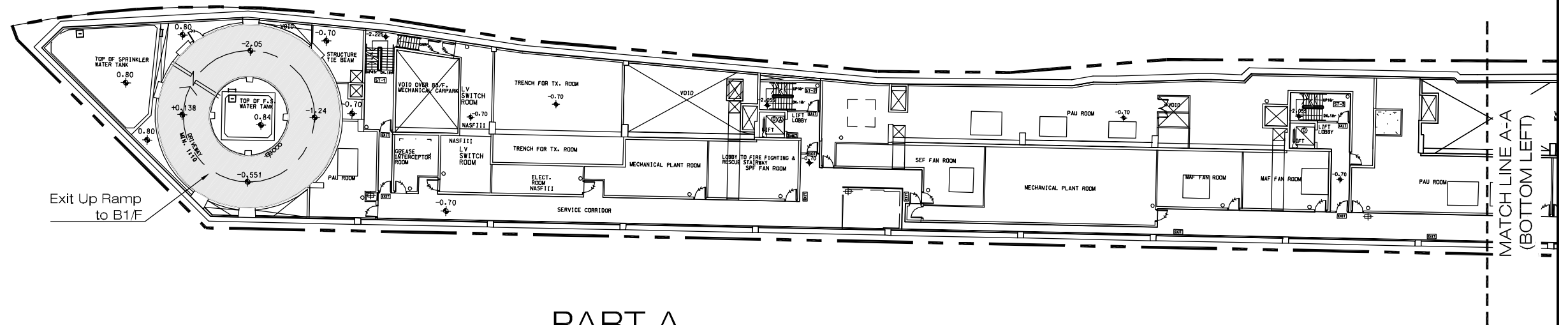
Project Title	PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY				Figure No. J7245 2.3	Revision B	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk
Figure Title	APPROVED B1/F LAYOUT OF THE EXISTING DEVELOPMENT				Designed by W C H	Drawn by S C Y	
					Scale in A3 1 : 400	Date 12 MAY 2025	

T:\JOB\J7200-J7249\J7245(2025 05) J7245_TIA_FR_R4\Fig 2.3 RevB.dwg

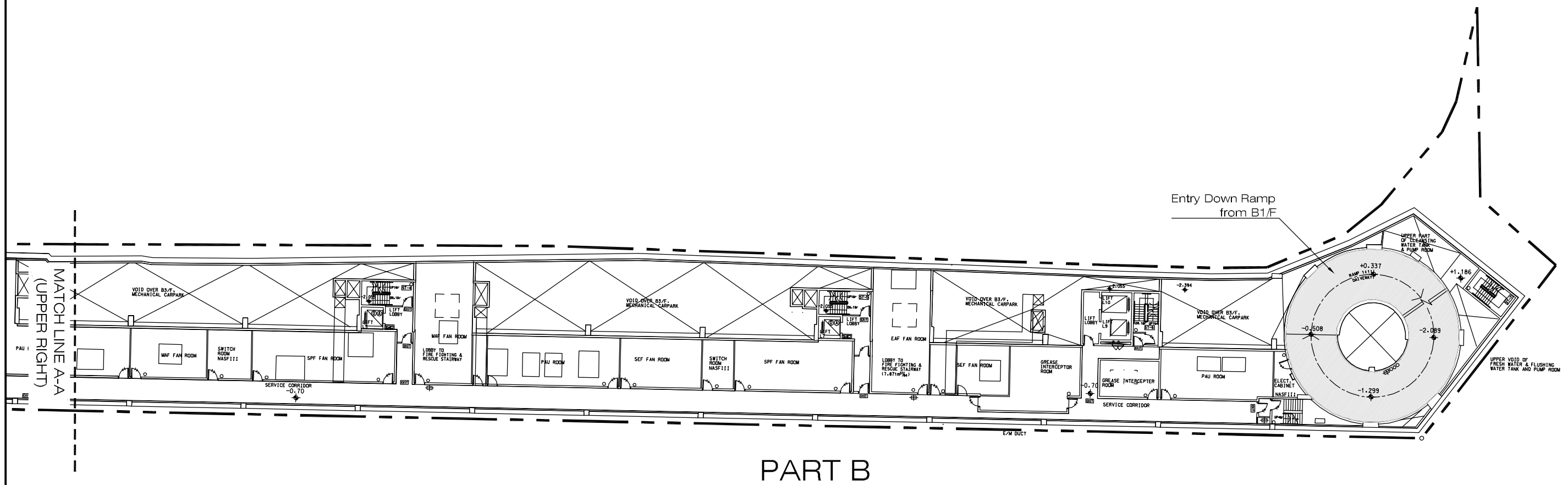


KEY PLAN

SCALE: 1 : 1,500



PART A



PART B

Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY

Figure Title APPROVED B2/F LAYOUT OF THE EXISTING DEVELOPMENT

Figure No. J7245

2.4

Revision B

Designed by W C H

Drawn by S C Y

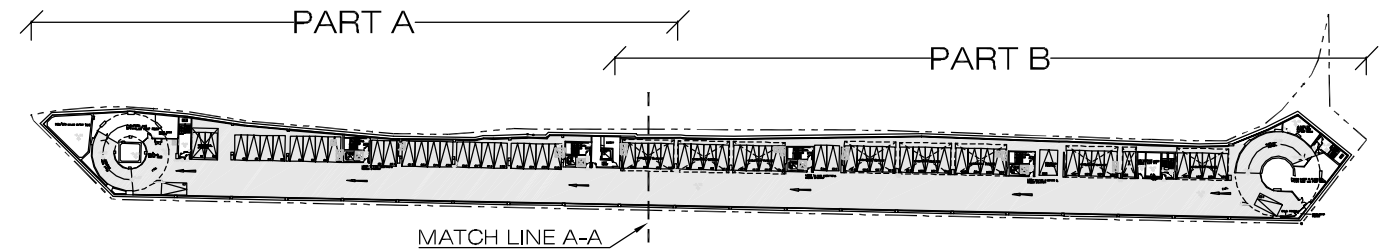
Checked by K C

Scale in A3 1 : 400

Date 12 MAY 2025

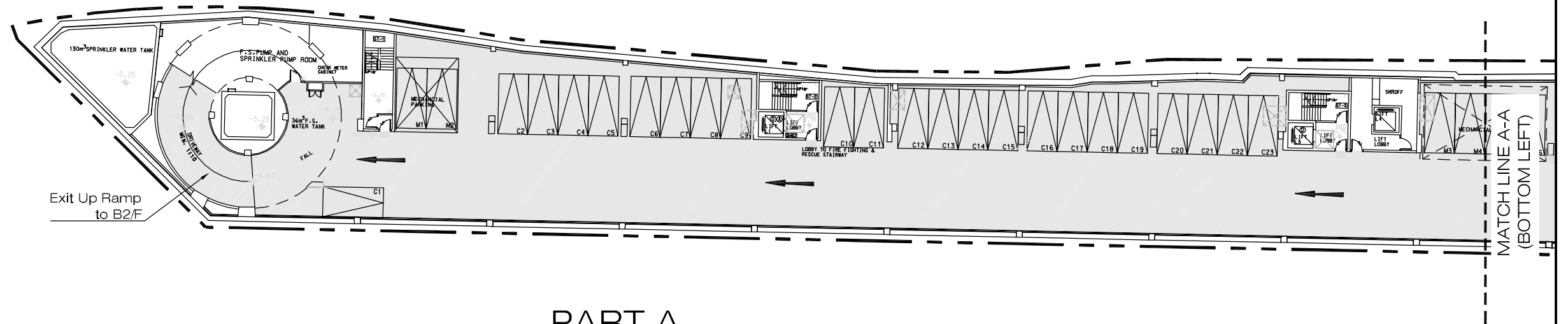
CKM Asia Limited
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T:\JOB\J7200-J7249\J7245(2025 05) J7245_TIA_FR_R4\Fig 2.4 RevB.dwg



KEY PLAN

SCALE: 1 : 1,500



PART A

LEGEND :



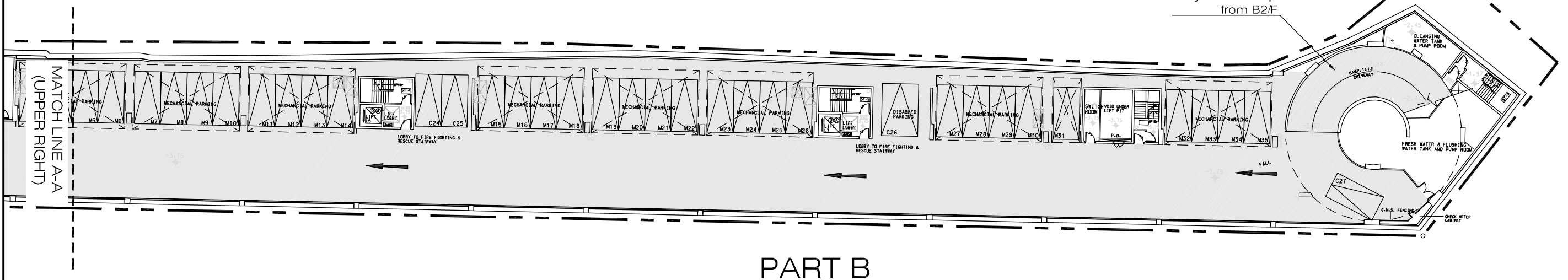
Approved Conventional car parking space
@5.0m(L) X 2.5m(W) X Min. 2.4m(H) [26 nos.]



Approved Double deck car parking rack
@5.0m(L) X 2.5m(W) [35 sets with 70 nos.]



Approved Accessible car parking space
@5.0m(L) X 3.5m(W) X Min. 2.4m(H) [1 no.]



PART B

Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)"
AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY

Figure Title APPROVED B3/F LAYOUT OF THE EXISTING DEVELOPMENT

J7245

Figure No.
2.5

Revision
B

Designed by
W C H

Drawn by
S C Y

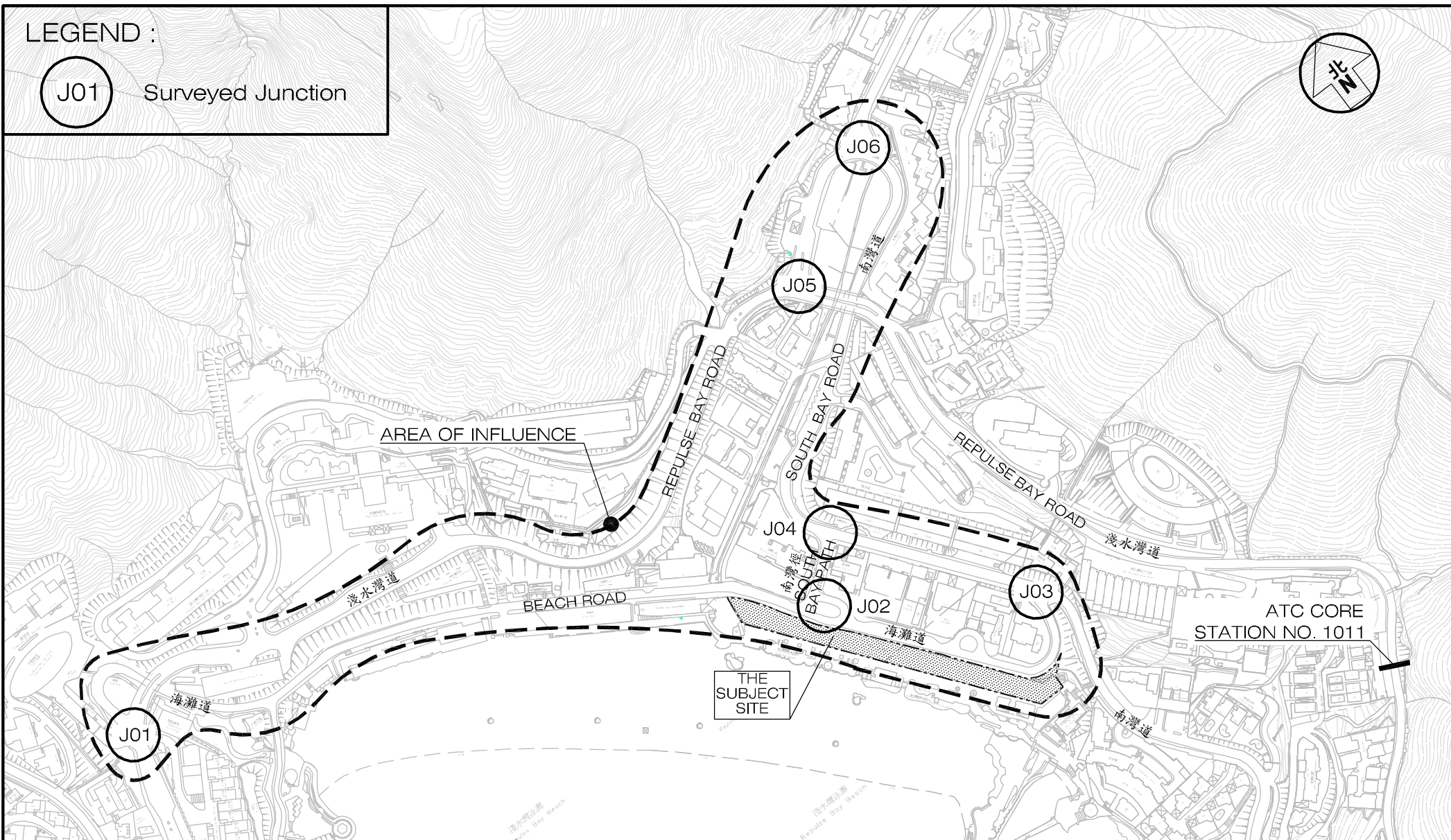
Checked by
K C

Scale in A3
1 : 400

Date
12 MAY 2025

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T:\JOB\J7200-J7249\J7245(2025 05) J7245_TIA_FR_R4\Fig 2.5 RevB.dwg



Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY

J7342

Figure No.

2.7

Revision

B

Figure Title

AREA OF INFLUENCE AND LOCATION OF THE SURVEYED JUNCTIONS

Designed by
M C Y

Drawn by
S C Y

Checked by
K C

Scale in A4

1 : 3,000

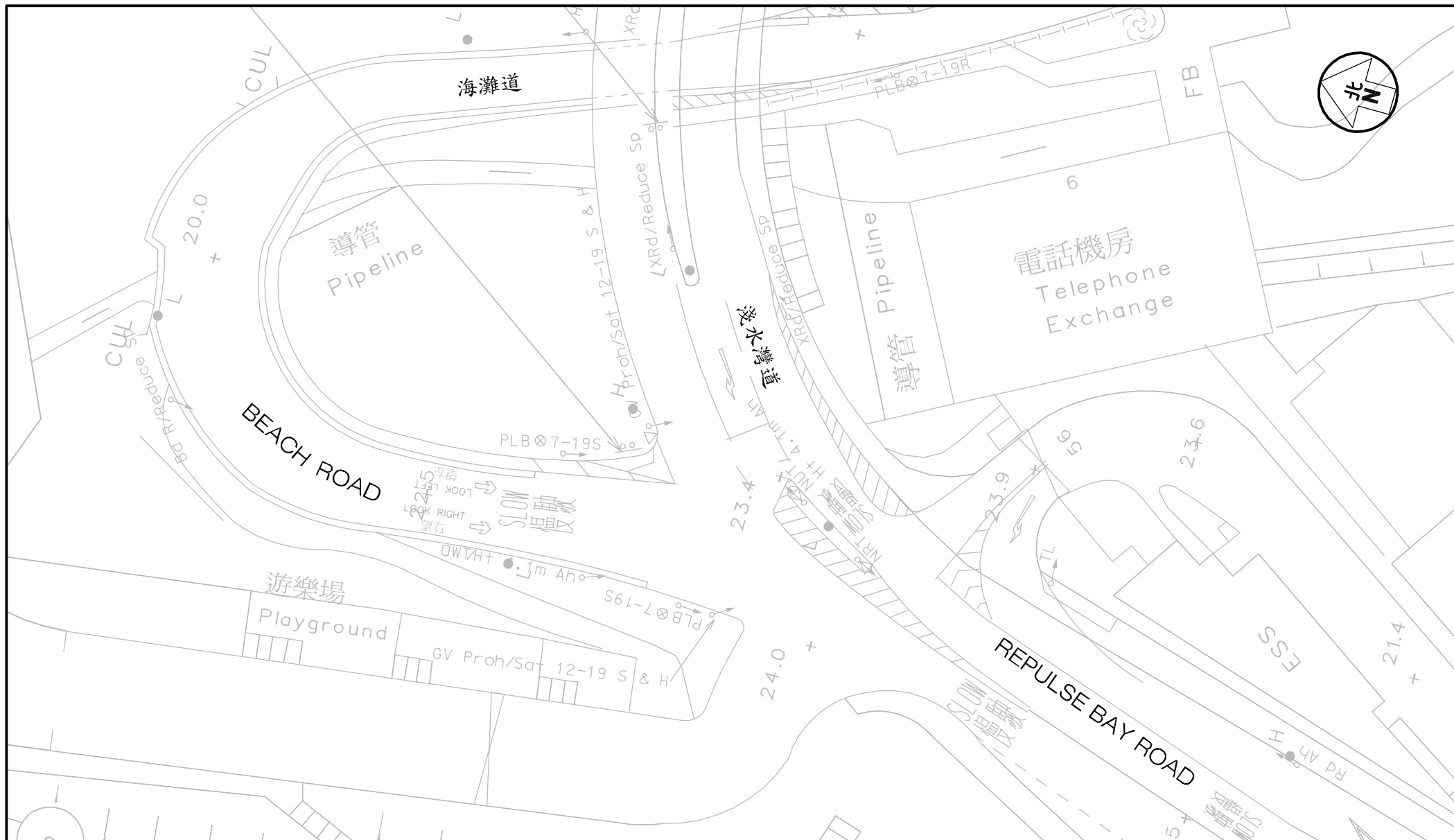
Date

12 MAY 2025

CKM Asia Limited

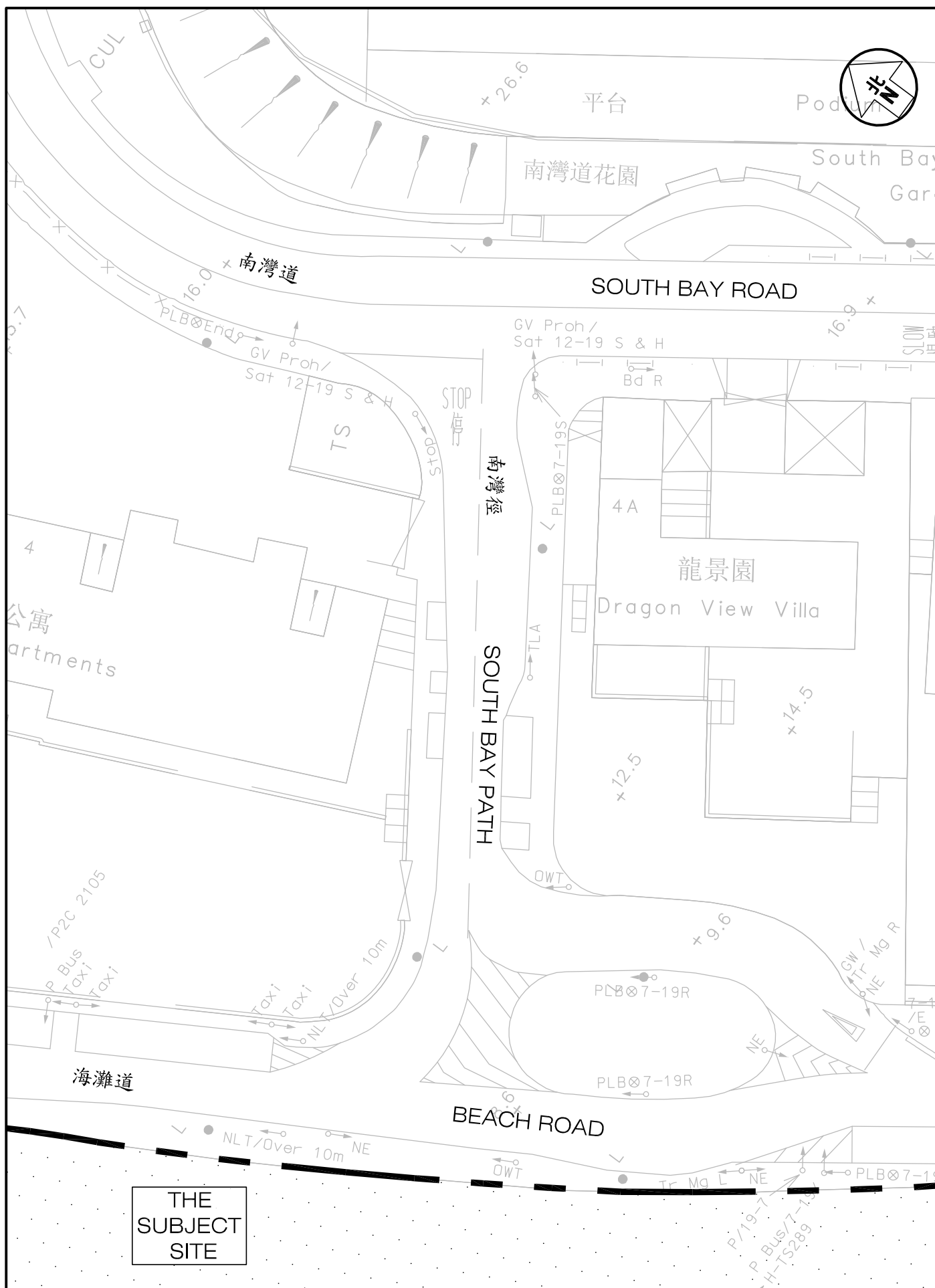
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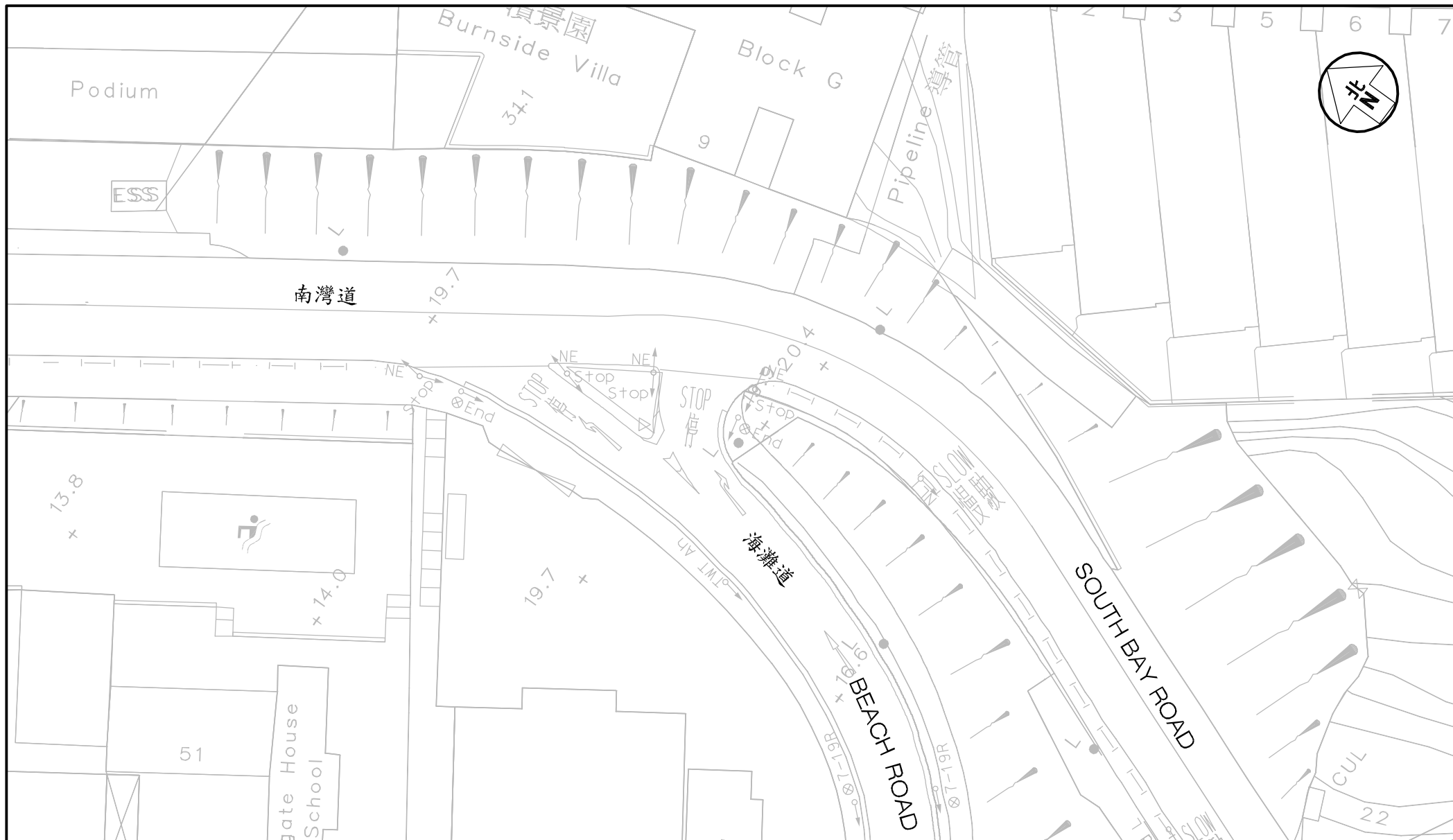
Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY	Figure No. 2.8 Revision B	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk
Figure Title JUNCTION OF REPULSE BAY ROAD / BEACH ROAD (J01)	Designed by M C Y Drawn by S C Y Checked by K C	
	Scale in A4 1 : 400 Date 12 MAY 2025	

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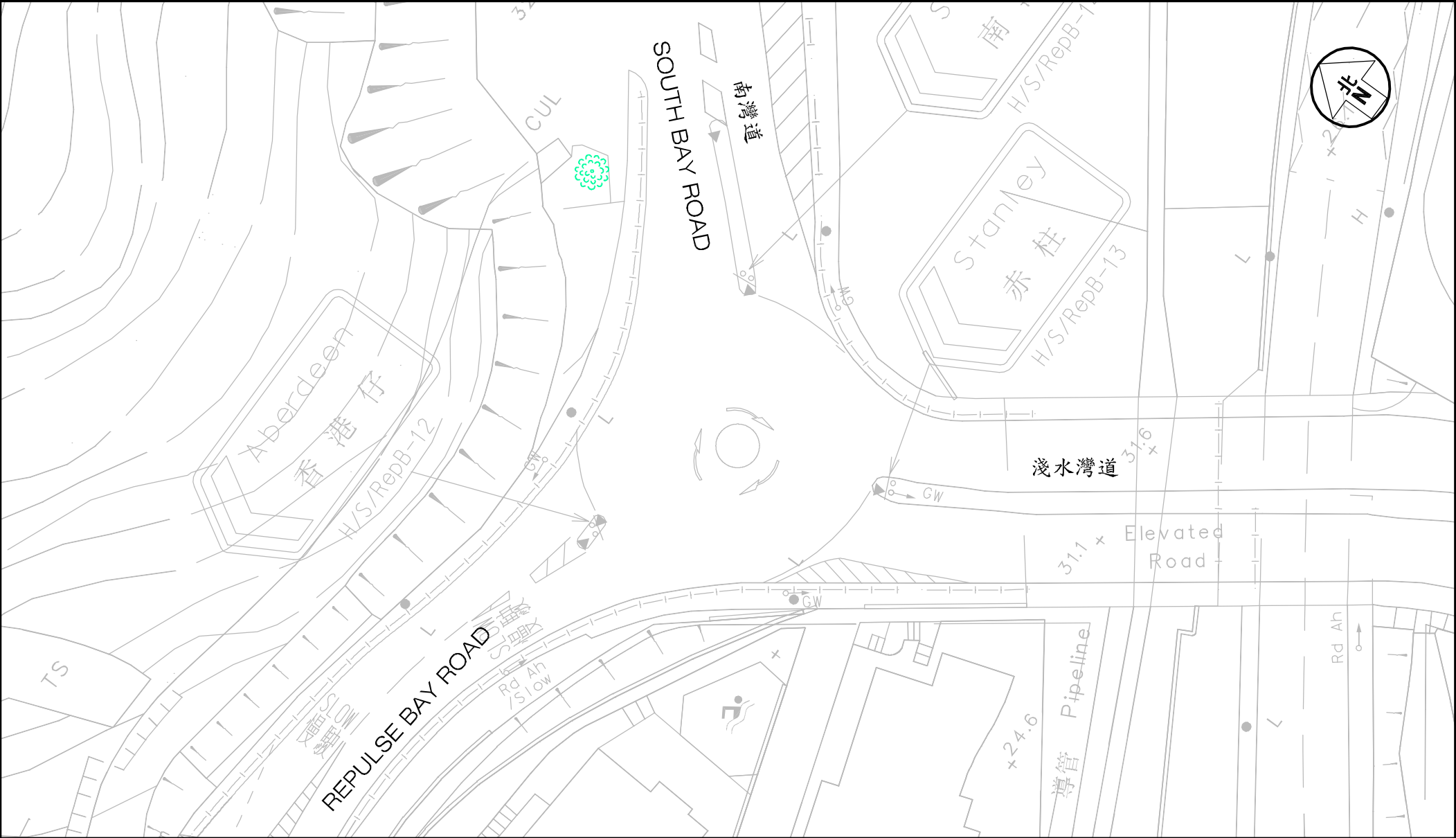
Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY			Job No. J7245	Figure No. 2.9	Scale in A4 1 : 400	
Figure Title JUNCTION OF BEACH ROAD / SOUTH BAY PATH (J02) AND JUNCTION OF SOUTH BAY ROAD / SOUTH BAY PATH (J04)			Designed by M C Y	Drawn by S C Y	Checked by K C	Revision B Date 12 MAY 2025
			CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk			

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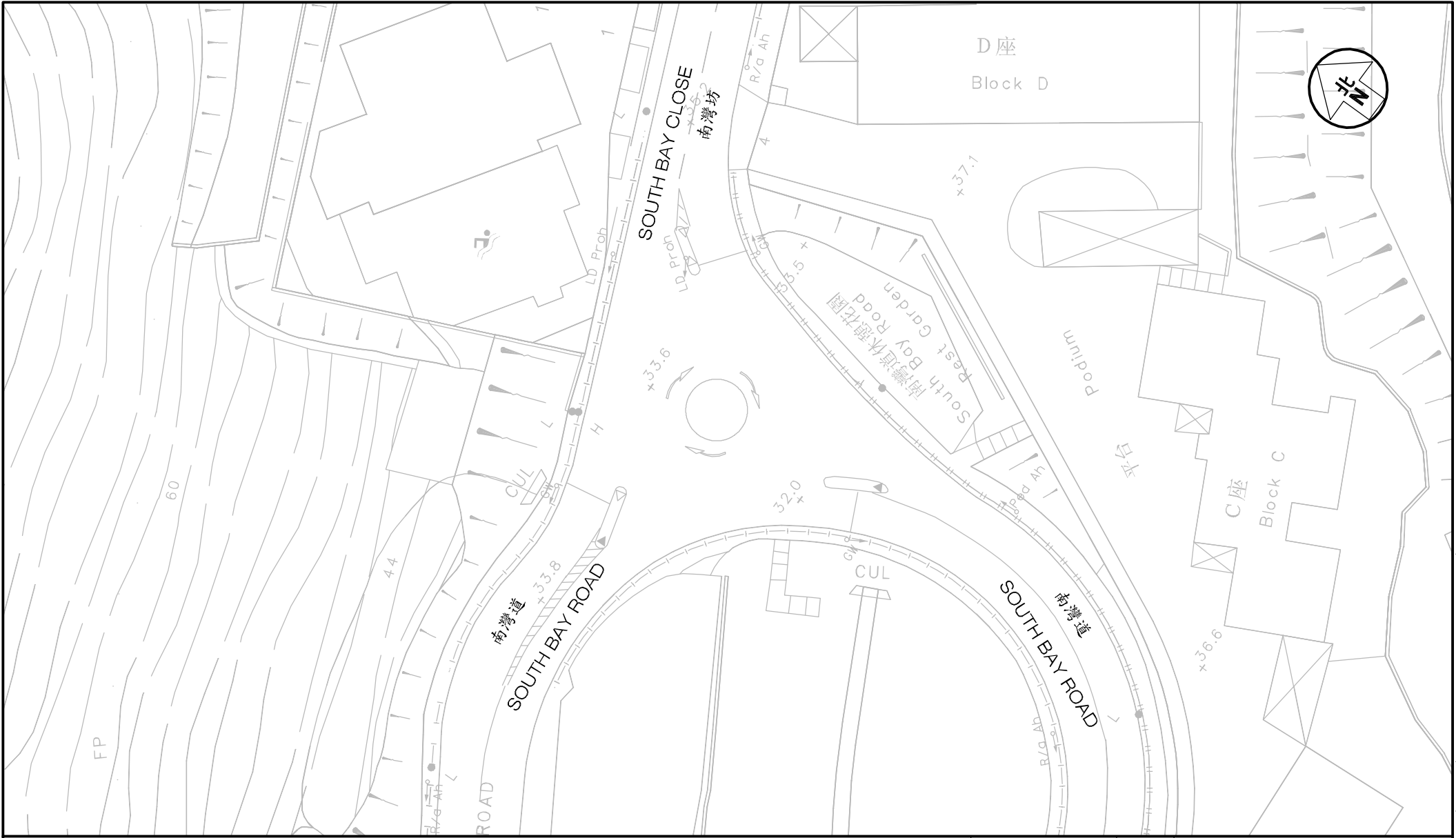
Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY	Figure No. 2.10	Revision B
Figure Title JUNCTION OF BEACH ROAD / SOUTH BAY ROAD (J03)	Designed by M C Y	Drawn by S C Y
	Scale in A4 1 : 400	Checked by K C
	Date 12 MAY 2025	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk

T:\JOB\J7200-J7249\J7245(2025 05) J7245_TIA_FR_R4\Fig 2.10 RevB.dwg



Project Title	PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY				J7245	Figure No.	2.11		Revision	B		CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk
Figure Title	JUNCTION OF REPULSE BAY ROAD / SOUTH BAY ROAD (J05)					Designed by	Drawn by		Checked by			
						M C Y	S C Y		K C			
						Scale in A4		Date				
						1 : 400		12 MAY 2025				

T:\JOB\J7200-J7249\J7245(2025 05) J7245_TIA_FR_R4Fig 2.11 RevB.dwg



Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY

Figure No. 2.12

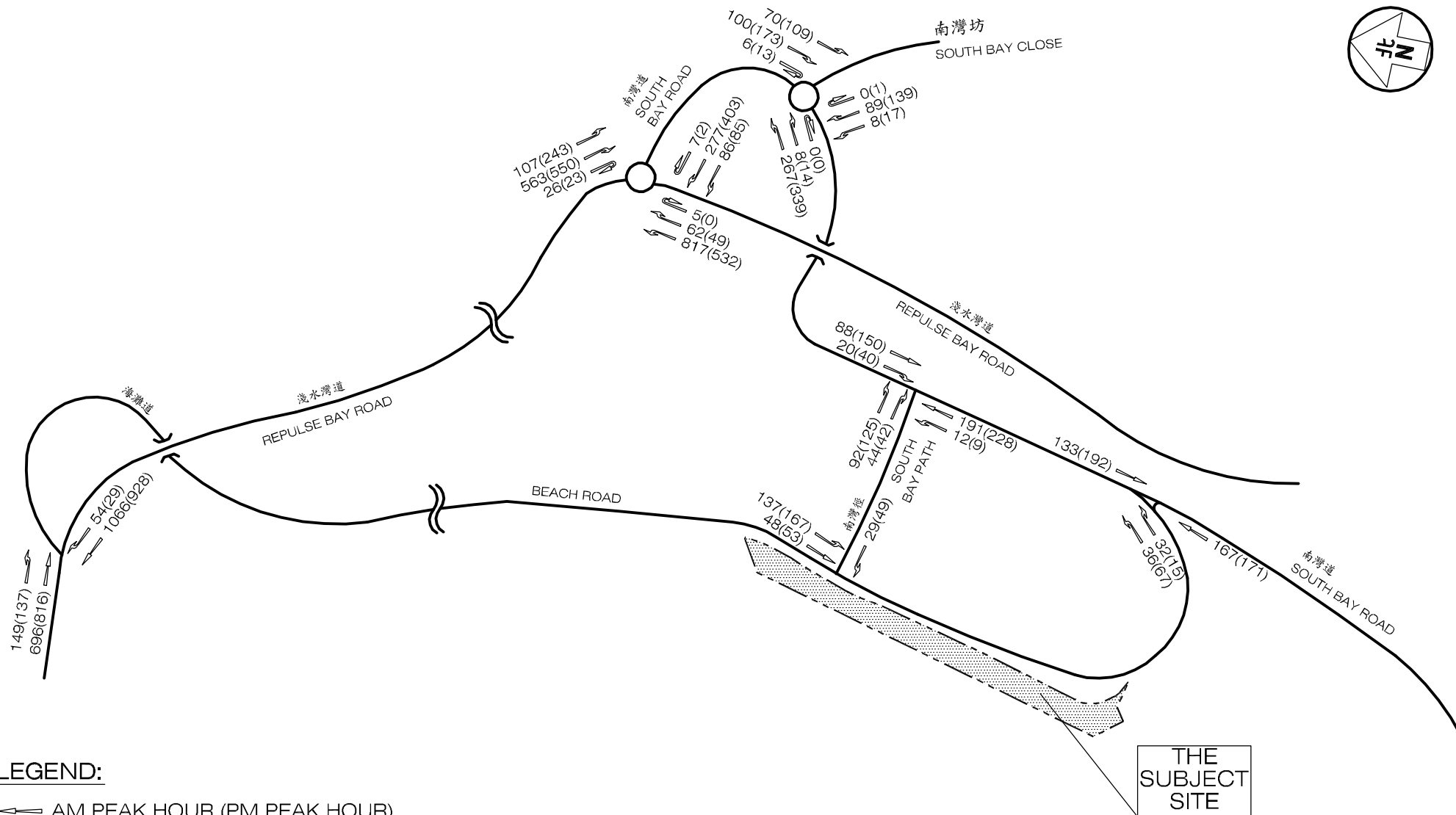
Revision B

Figure Title JUNCTION OF SOUTH BAY ROAD / SOUTH BAY CLOSE (J06)

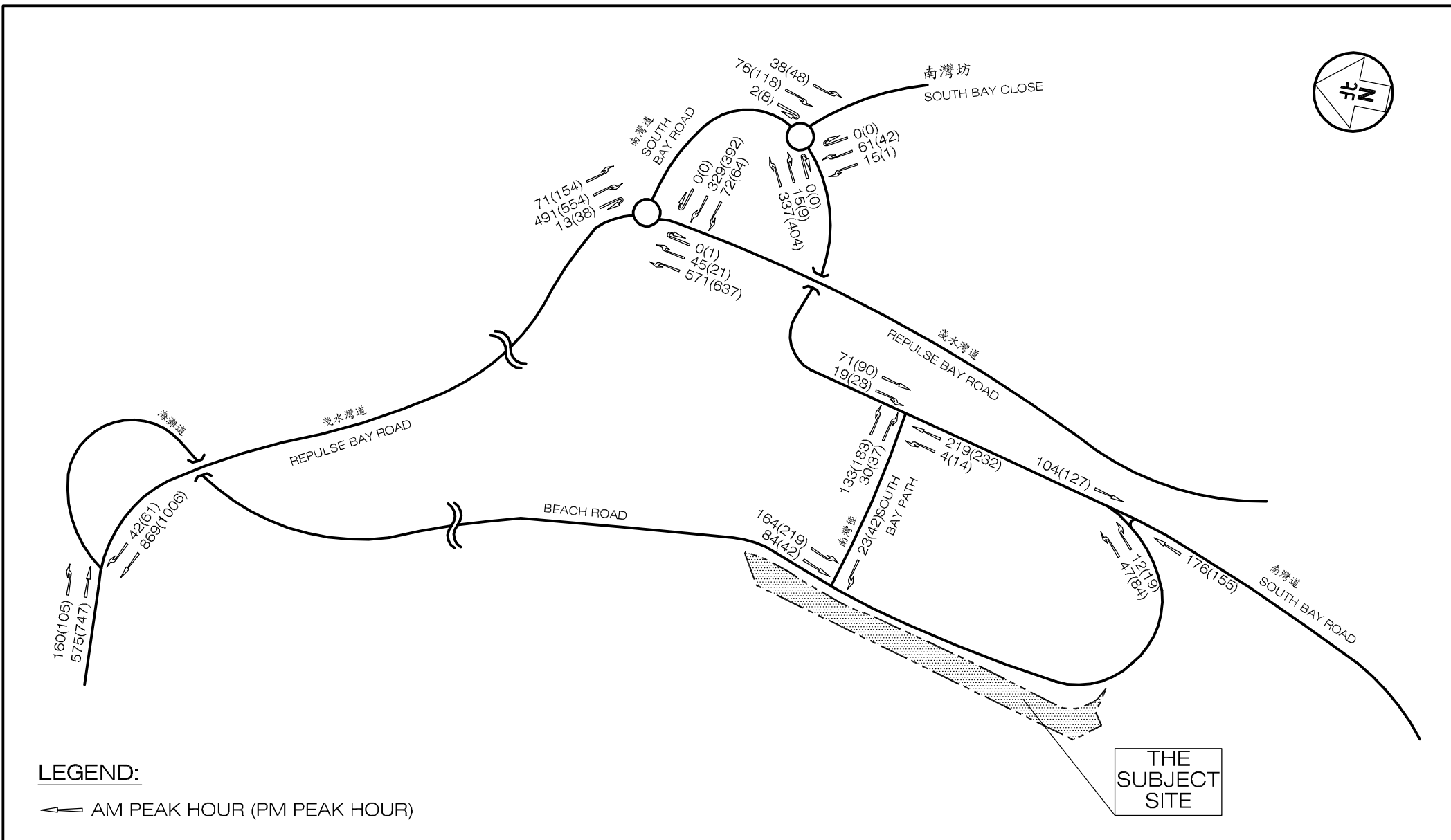
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Drawn by S C Y
Checked by K C
Scale in A4 1 : 500
Date 12 MAY 2025

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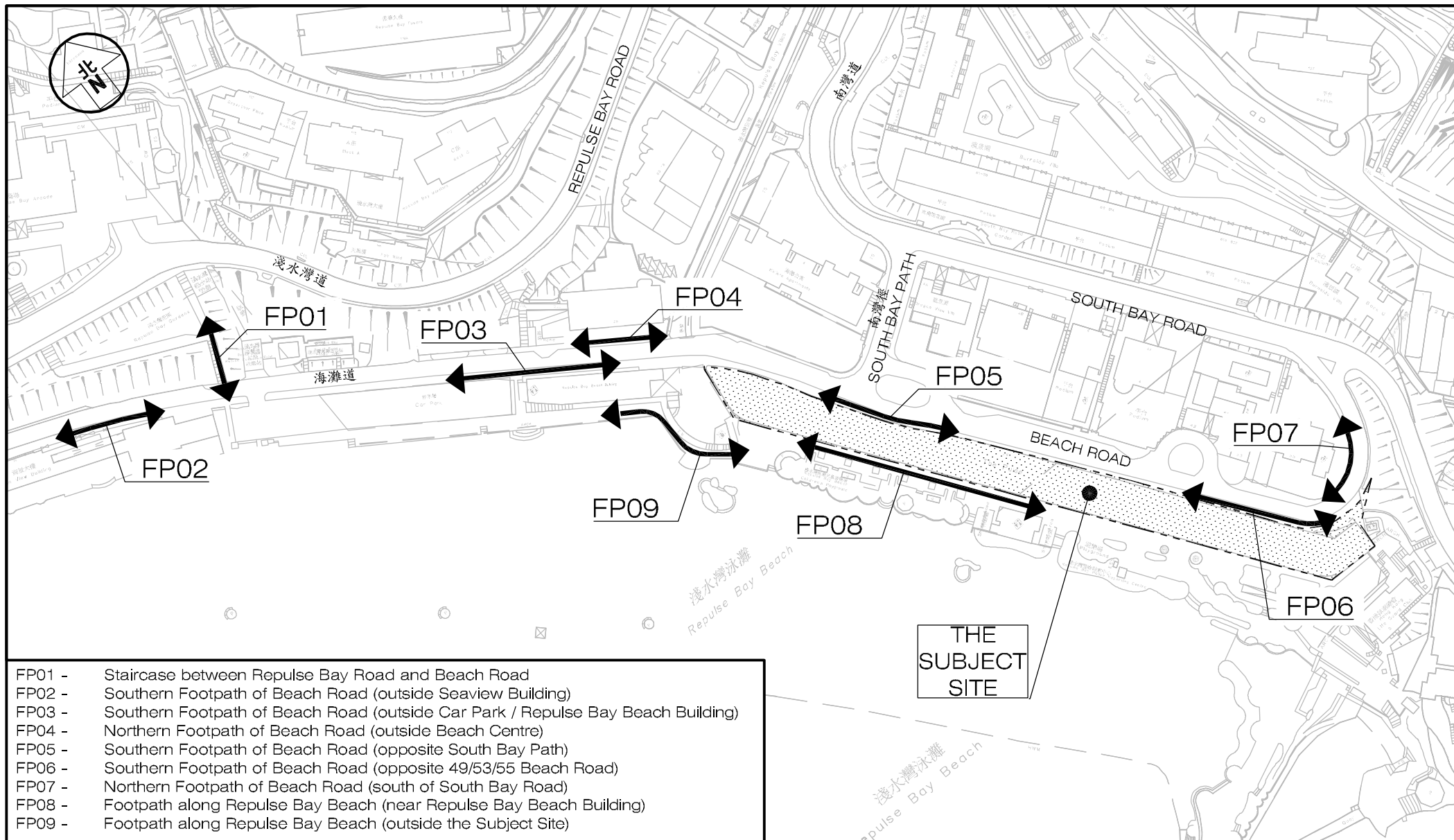
T:\JOB\J7200-J7249\J7245(2025 02) J7245_TIA_FR_R3\Fig 2.12 RevA.dwg



Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY	Figure No. 2.13	Revision B
Figure Title EXISTING WEEKDAY PEAK HOUR TRAFFIC FLOWS	Designed by M C Y	Drawn by S C Y
	Checked by K C	Scale in A4 N.T.S.
	Date 12 MAY 2025	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk



Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY	Figure No. 2.14	Revision B
Figure Title EXISTING WEEKEND PEAK HOUR TRAFFIC FLOWS	Designed by M C Y	Drawn by S C Y
	Scale in A4 N.T.S.	Checked by K C
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- FP01 - Staircase between Repulse Bay Road and Beach Road
- FP02 - Southern Footpath of Beach Road (outside Seaview Building)
- FP03 - Southern Footpath of Beach Road (outside Car Park / Repulse Bay Beach Building)
- FP04 - Northern Footpath of Beach Road (outside Beach Centre)
- FP05 - Southern Footpath of Beach Road (opposite South Bay Path)
- FP06 - Southern Footpath of Beach Road (opposite 49/53/55 Beach Road)
- FP07 - Northern Footpath of Beach Road (south of South Bay Road)
- FP08 - Footpath along Repulse Bay Beach (near Repulse Bay Beach Building)
- FP09 - Footpath along Repulse Bay Beach (outside the Subject Site)

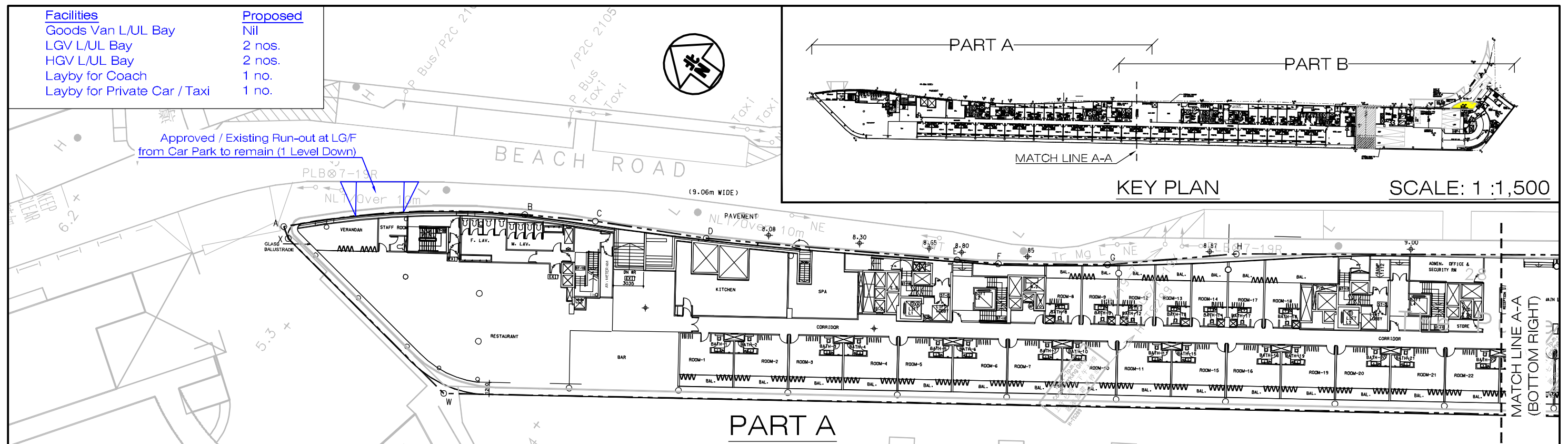
Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY J7245

Figure Title LOCATION OF THE SURVEYED FOOTPATHS







Figure No.	2.15	Revision	B
Designed by	MCY	Drawn by	SCY
Checked by	KC		
Scale in A4	1 : 2,000	Date	12 MAY 2025

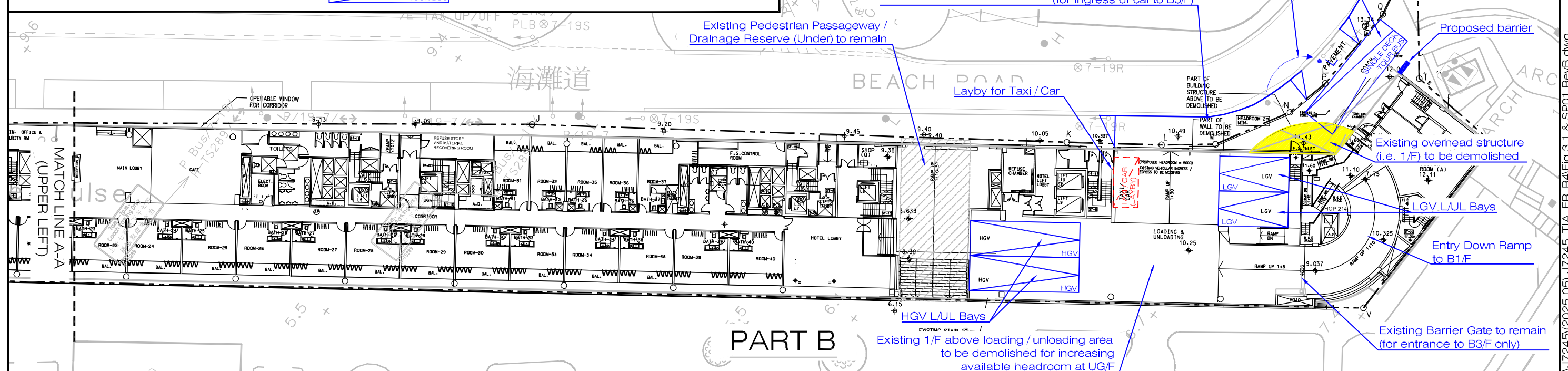
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<u>Facilities</u>	<u>Proposed</u>
Goods Van L/UL Bay	Nil
LGV L/UL Bay	2 nos.
HGV L/UL Bay	2 nos.
Layby for Coach	1 no.
Layby for Private Car / Taxi	1 no.



LEGEND :

- | | | | |
|--|---|---|--|
|  | Existing Goods Van L/UL Bay
@5.0m(L) X 2.5m(W) |  | @5.0m(L) X 2.5m(W) X Min. 2.4m(H) |
|  | Existing LGV L/UL Bay
@7.0m(L) X 3.5m(W) |  | Proposed LGV L/UL Bay
@7.0m(L) X 3.5m(W) X Min. 3.6m (H) |
| | |  | Proposed HGV L/UL Bay
@11.0m(L) X 3.5m(W) X Min. 4.7m (H) |
| | |  | Proposed Layby for Single Deck Tour Bus
@12.0m(L) X 3.5m(W) X Min. 3.8m (H) |



Project Title	PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY
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Figure Title

PROPOSED INTERNAL TRANSPORT LAYOUT AT UG/F WITH THE PROPOSED CONVERSION

J7245

45	Figure No.
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Revision	B
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Designed by	W C H
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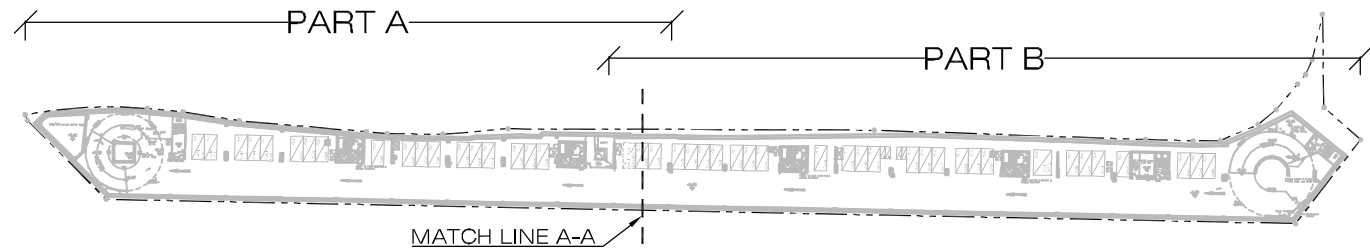
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Checked by	K C
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Scale in A3
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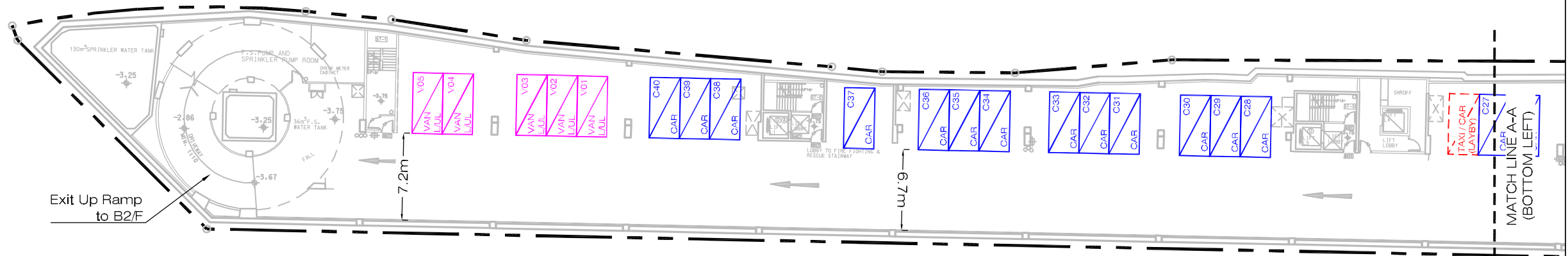
Date	12 MAY 2025
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Facilities	
Car Parking Spaces	Proposed
- Conventional	Total 40 nos., including:
- Accessible	39 nos.
	1 no.
Motorcycle	4 nos.
Layby for Taxi / Private Car	1 no.
Goods Van Loading / Unloading Bays	5 nos.



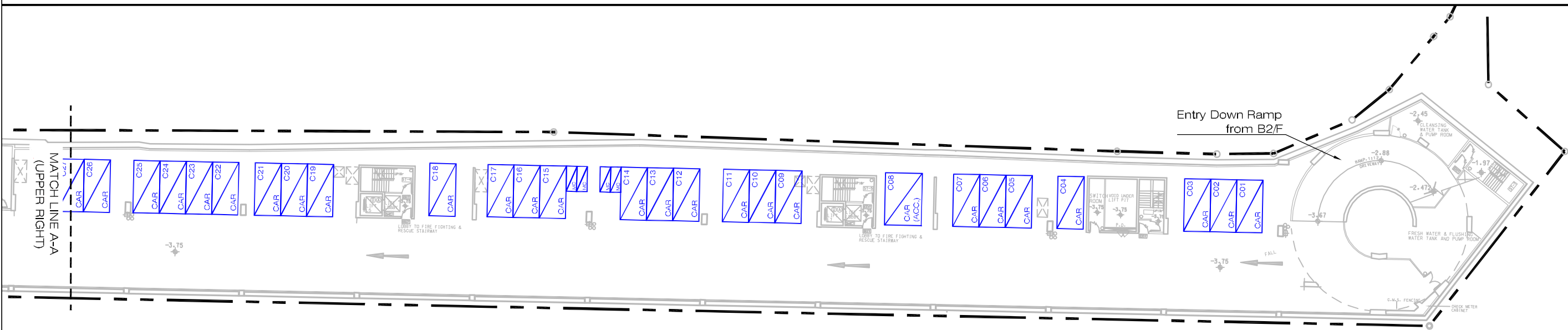
KEY PLAN

SCALE: 1 :1,500



PART A

NOTE:
ALL existing mechanical parking racks are to be removed.



PART B

NOTE:
ALL existing mechanical parking racks are to be removed.

LEGEND :



Proposed car parking spaces
@5.0m(L) X 2.5m(W) X Min. 2.4m(H)



Proposed accessible car parking space
@5.0m(L) X 3.5m(W) X Min. 2.4m(H)



Proposed layby for taxi / private car
@5.0m(L) X 2.5m(W) X Min. 2.4m(H)



Proposed motorcycle parking spaces
@2.4m(L) X 1.0m(W) X Min. 2.4m(H)



Proposed Goods Van loading / unloading bay
@ 5.0m(L) X 2.5m(W) X Min. 2.4m(H)

Project Title
PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)"
AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY

J7245

Figure No.
3.2

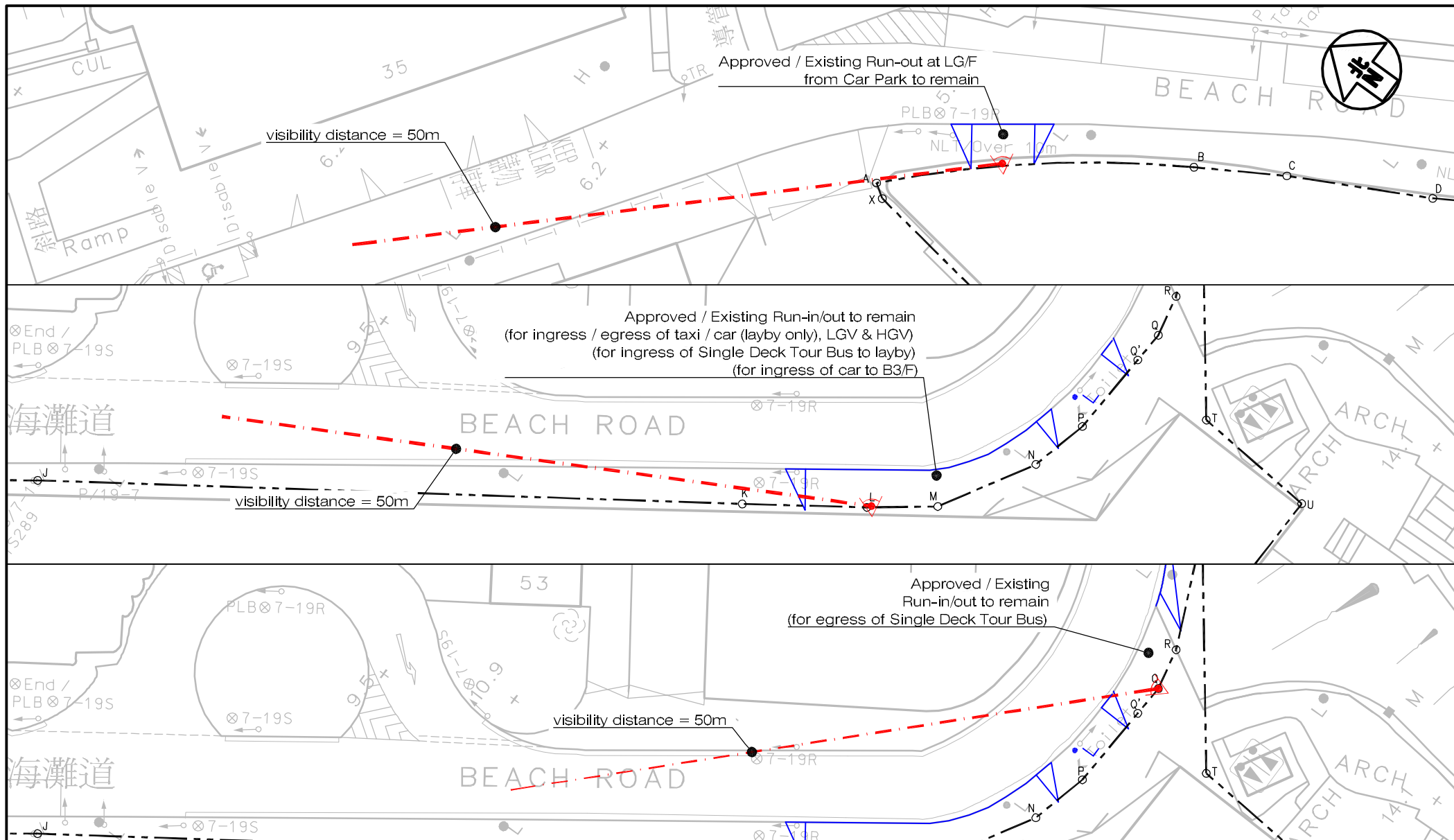
Revision
B

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Wan Chai, Hong Kong
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Figure Title
**PROPOSED INTERNAL TRANSPORT LAYOUT
AT B3/F WITH THE PROPOSED CONVERSION**

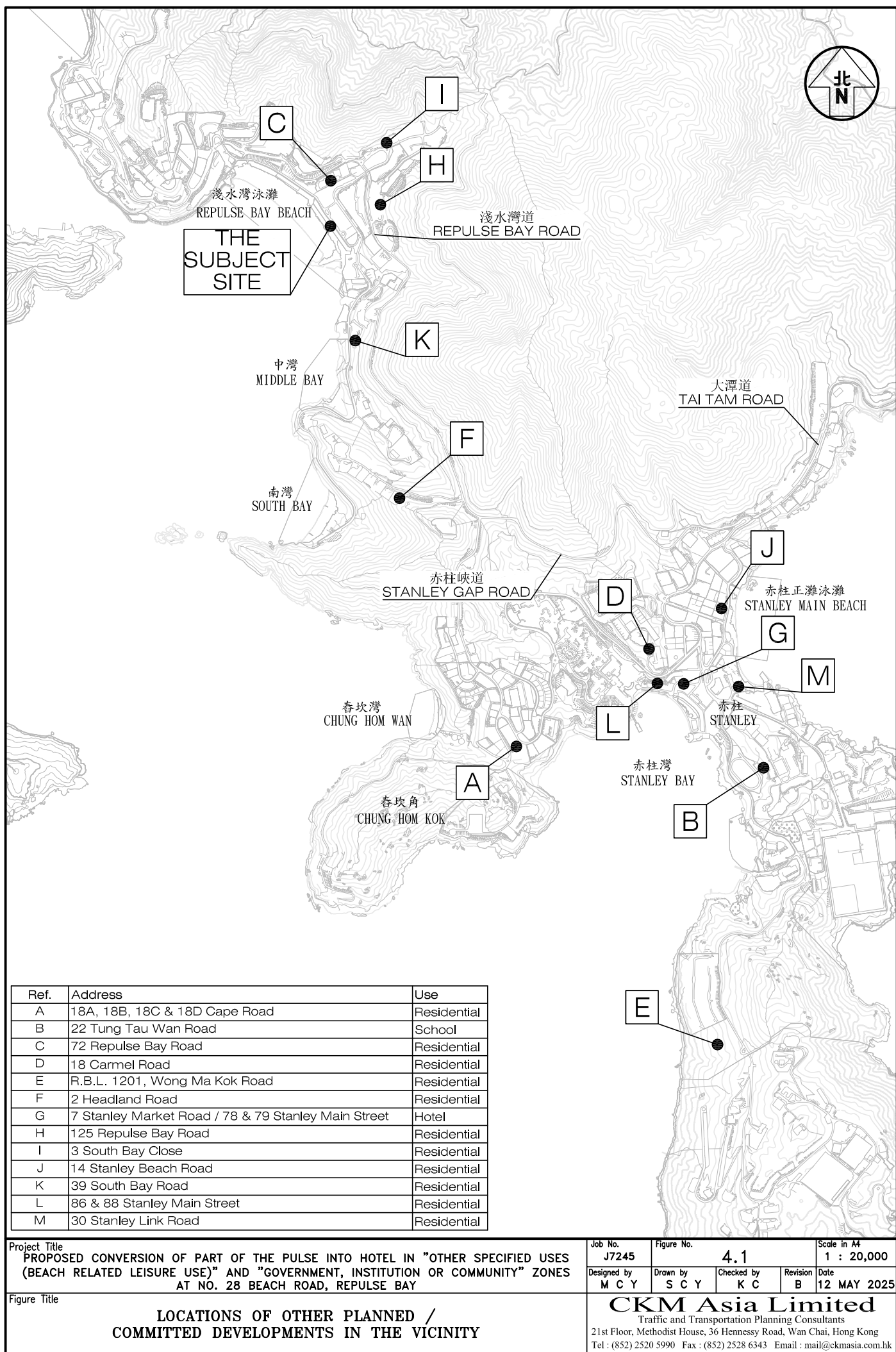
Designed by
W C H
Scale in A3
1 : 400
Drawn by
S C Y
Date
12 MAY 2025
Checked by
K C

T:\JOB\J7200-J7249\J7245\TIA_FR_R4\Fig 3.2 & SP02 RevB.dwg

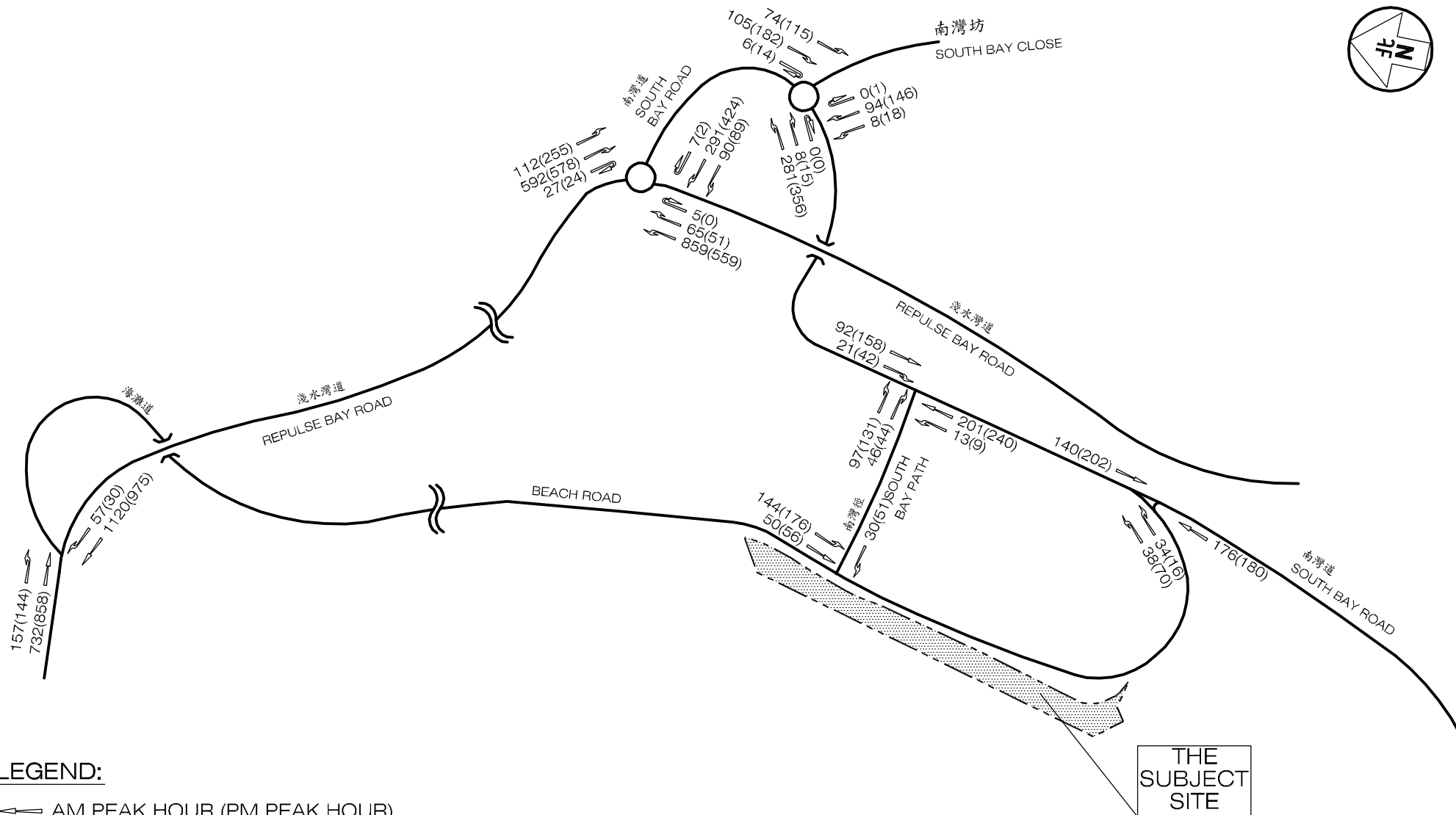


Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY	Figure No. 3.3	Revision B
Figure Title VISIBILITY ASSESSMENTS AT APPROVED / EXISTING VEHICULAR ACCESSES ALONG BEACH ROAD	Designed by W C H Scale in A4 1 : 400	Checked by K C Date 12 MAY 2025

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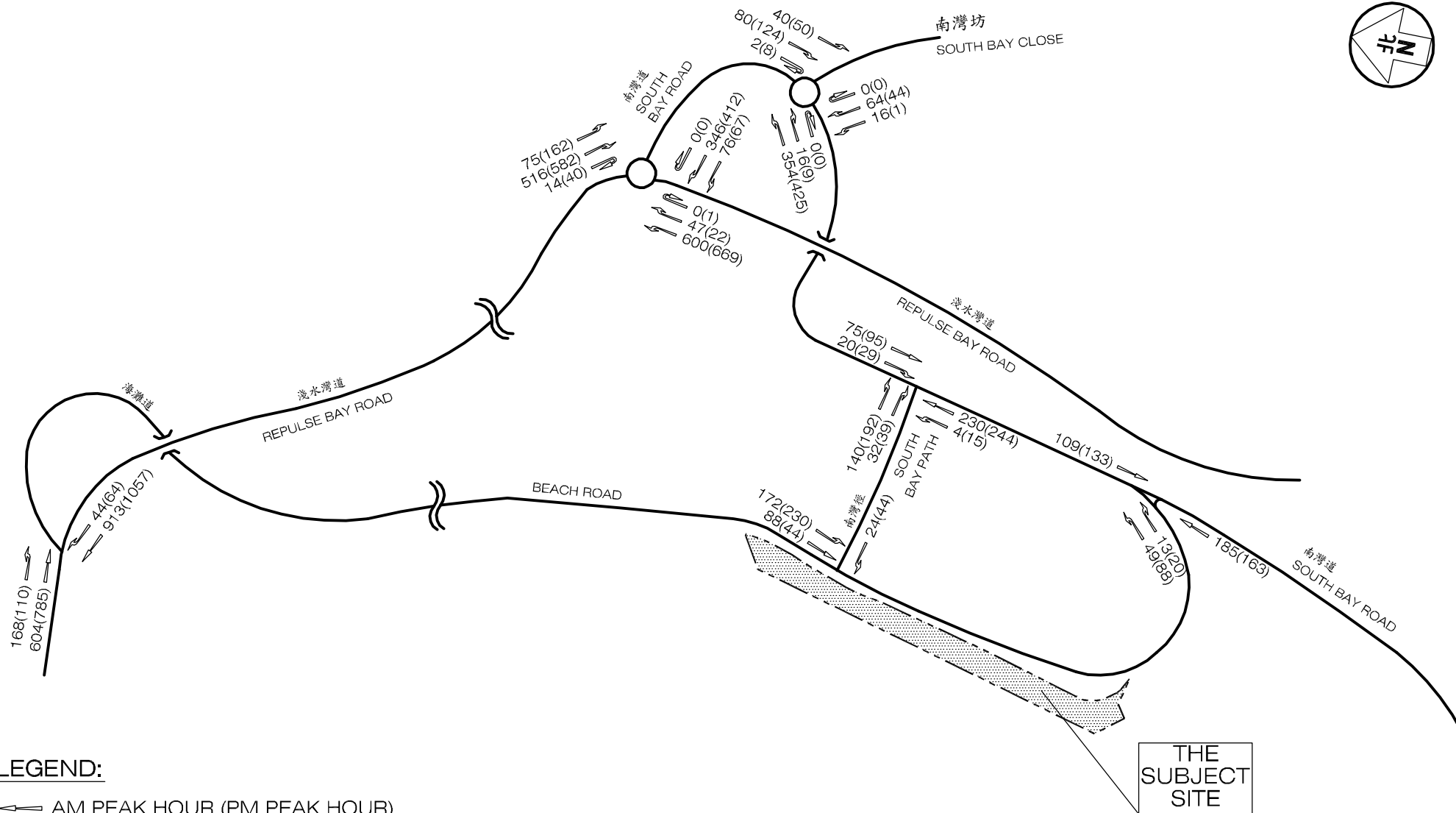


T:\JOB\J7200-J7249\J7245(2025 05) J7245_TIA_FR_R4\Fig 4.1 RevB.dwg



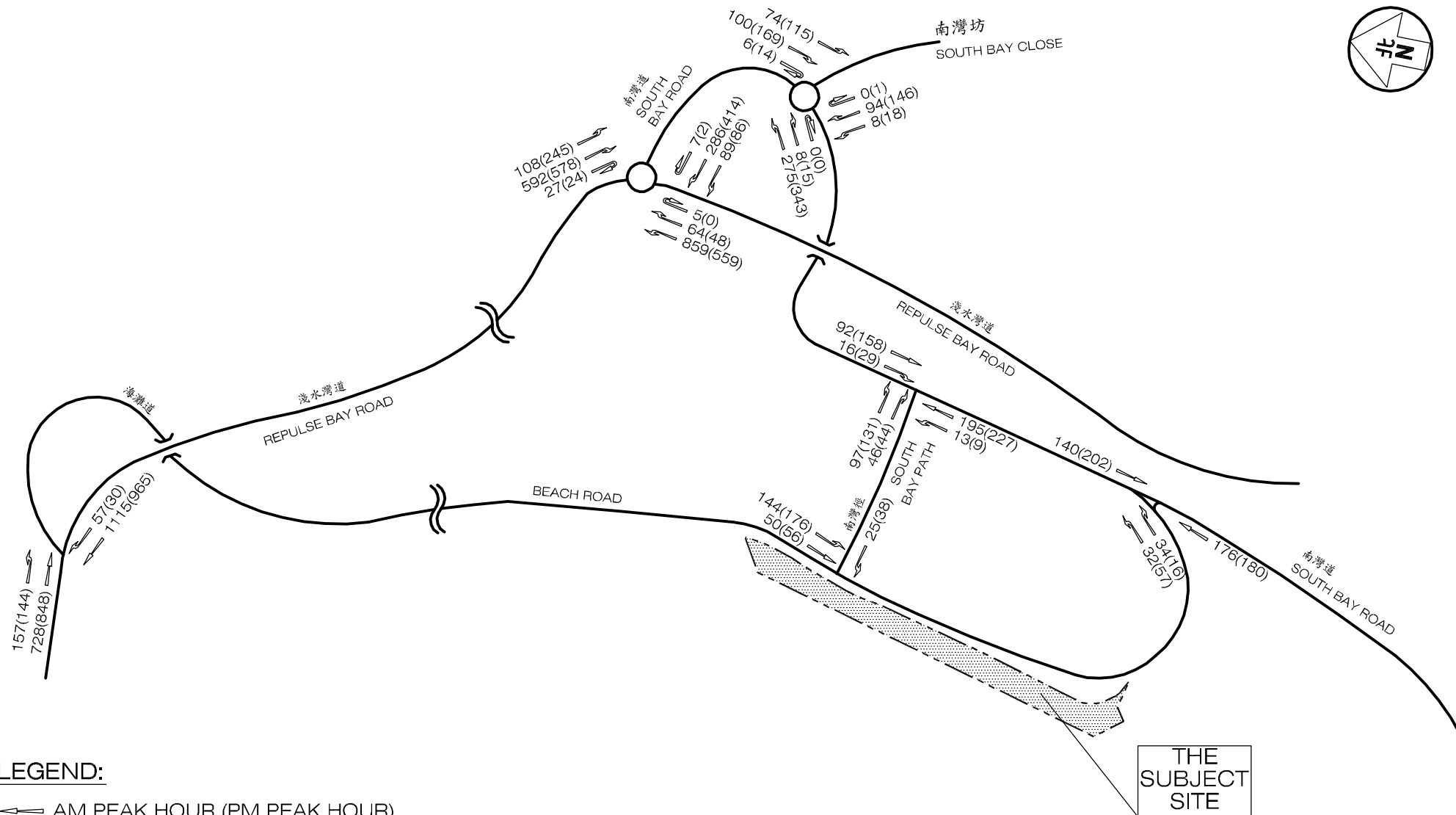
Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY	Figure No. 4.2	Revision B
Figure Title YEAR 2030 WEEKDAY PEAK HOUR TRAFFIC FLOW WITHOUT THE PROPOSED DEVELOPMENT	Designed by M C Y	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk

T:\JOB\J7200-J7249\J7245(2025 05) J7245_TIA_FR_R4Fig 4.2 RevB.dwg



Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY	Figure No. 4.3	Revision B
Figure Title YEAR 2030 WEEKEND PEAK HOUR TRAFFIC FLOW WITHOUT THE PROPOSED CONVERSION	Designed by M C Y Scale in A4 N.T.S.	Checked by K C Date 12 MAY 2025

CKM Asia Limited
 Traffic and Transportation Planning Consultants
 21st Floor, Methodist House, 36 Hennessy Road,
 Wan Chai, Hong Kong
 Tel : (852) 2520 5990 Fax : (852) 2528 6343
 Email : mail@ckmasia.com.hk



Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY

J7245

Figure No. 4.4

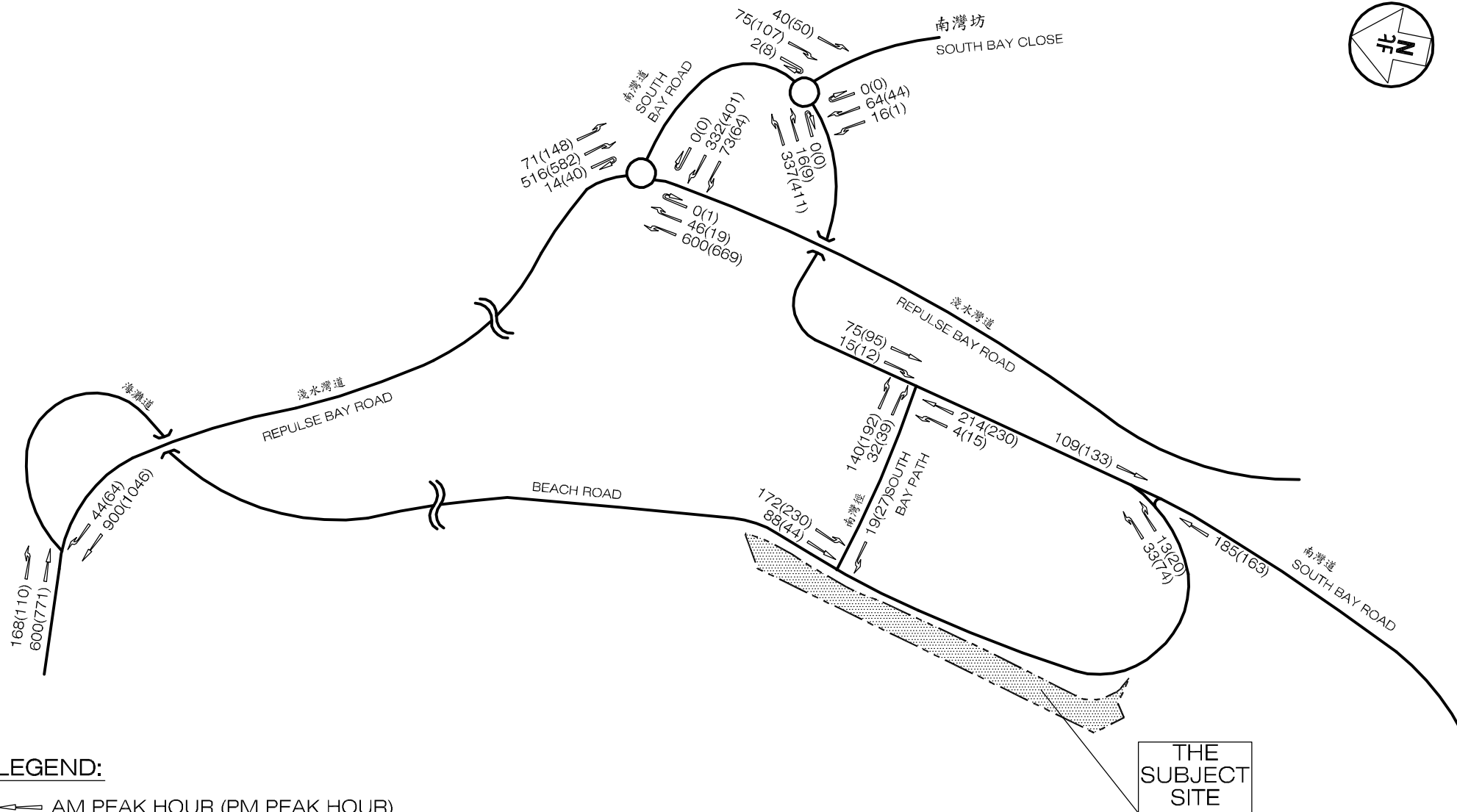
Revision B

Figure Title YEAR 2030 WEEKDAY PEAK HOUR TRAFFIC FLOW WITH THE PROPOSED CONVERSION

Designed by M C Y
 Drawn by S C Y
 Checked by K C
 Scale in A4 N.T.S.
 Date 12 MAY 2025

CKM Asia Limited
 Traffic and Transportation Planning Consultants
 21st Floor, Methodist House, 36 Hennessy Road,
 Wan Chai, Hong Kong
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 Email : mail@ckmasia.com.hk

T:\JOB\J7200-J7249\J7245(2025 05) J7245_TIA_FR_R4\Fig 4.4 RevB.dwg



Project Title PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY	Figure No. 4.5	Revision B
Figure Title YEAR 2030 WEEKEND PEAK HOUR TRAFFIC FLOW WITH THE PROPOSED CONVERSION	Designed by M C Y	Drawn by S C Y
	Checked by K C	Date 12 MAY 2025
	Scale in A4 N.T.S.	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk

T:\JOB\J7200-J7249\J7245(2025 05) J7245_TIA_FR_R4\Fig 4.5 RevB.dwg

**Appendix A –
Extract of 2023 ATC**

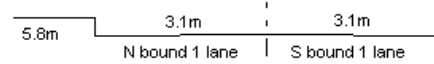
YEAR 2023

CORE STATION 1011

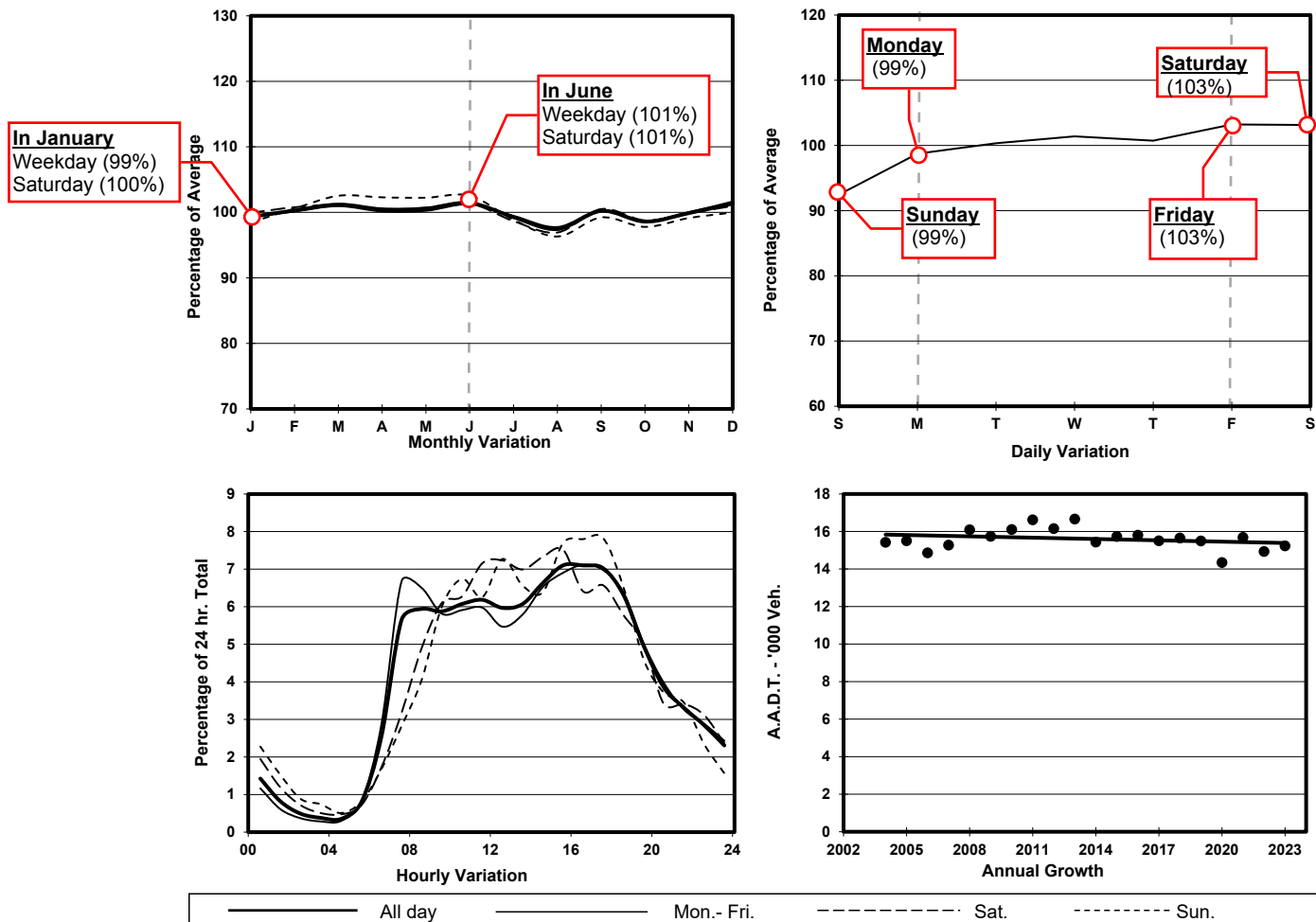
ROAD NETWORK MAJOR

ROAD TYPE PRIMARY DISTRIBUTOR

LINK REPULSE BAY RD & STANLEY GAP RD (from SOUTH BAY RD to TAI TAM RD)



1. TRAFFIC FLOW VARIATION AND GROWTH



2. TRAFFIC CHARACTERISTICS (BY DIRECTION)

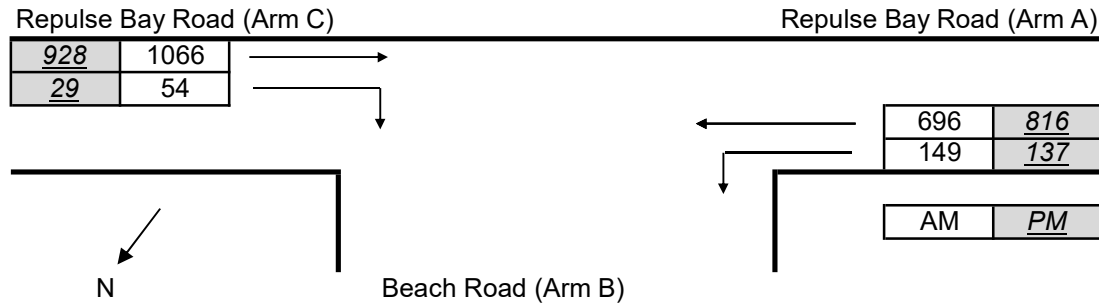
Parameter	All - Day	Mon. - Fri.	Sat.	Sun.
SOUTH BOUND				
A.A.D.T.	7580	7640	7960	7160
R 12 / 24 - %	75.1	74.7	76.5	76
R 16 / 24 - %	90.4	90.6	90.2	89.9
AM Peak Hour	0800-0900	0800-0900	0800-0900	0900-1000
One-way flow at AM peak hour	440	470	440	460
T - % (AM)	-	-	-	-
PM Peak Hour	1600-1700	1600-1700	1600-1700	1600-1700
One-way flow at PM peak hour	550	550	540	580
T - % (PM)	-	-	-	-
Prop.of commercial vehicles - 16 hr.	-	-	-	-
NORTH BOUND				
A.A.D.T.	7650	7800	7820	6980
R 12 / 24 - %	76.7	77.4	74.3	75.9
R 16 / 24 - %	91.4	91.8	90.6	90.1
AM Peak Hour	0700-0800	0700-0800	0900-1000	0900-1000
One-way flow at AM peak hour	470	590	540	390
T - % (AM)	-	-	-	-
PM Peak Hour	1700-1800	1700-1800	1700-1800	1700-1800
One-way flow at PM peak hour	570	570	550	630
T - % (PM)	-	-	-	-
Prop.of commercial vehicles - 16 hr.	-	-	-	-

3. OTHER INFORMATION AND COMMENT

Appendix B – Junction Capacity Analyses

Priority Junction Analysis

Junction:	Beach Road / Repulse Bay Road	Job Number:	J7245
Scenario:	Existing Condition (Weekday)	J01 - P. 1	
Design Year:	2025	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input	Input	Input	Calculated
W	9.50	V-rBA	50
W-CR	0.00	V-IBA	50
		V-rBC	50
		V-rCB	50
		w-BA	0.00
		w-BC	0.00
		w-CB	3.20
		Y	0.4963

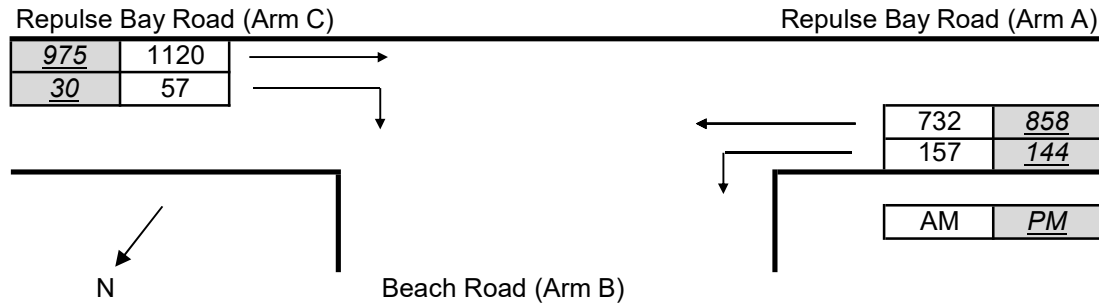
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	1066	928	Q-BA	206	206
q-CB	54	29	Q-BC	375	362
q-AB	149	137	Q-CB	532	514
q-AC	696	816	Q-BAC	206	206
q-BA	0	0			
q-BC	0	0			
f	0.000	0.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.000	0.000
C-B	0.102	0.056
B-AC	0.000	0.000

Priority Junction Analysis

Junction:	Beach Road / Repulse Bay Road	Job Number:	J7245
Scenario:	Without Proposed Conversion (Weekday)	J01 - P. 2	
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input		Input		Input		Calculated	
W	9.50	V-rBA	50	w-BA	0.00	D	0.5786
W-CR	0.00	V-IBA	50	w-BC	0.00	E	0.6155
		V-rBC	50	w-CB	3.20	F	0.8974
		V-rCB	50			Y	0.4963

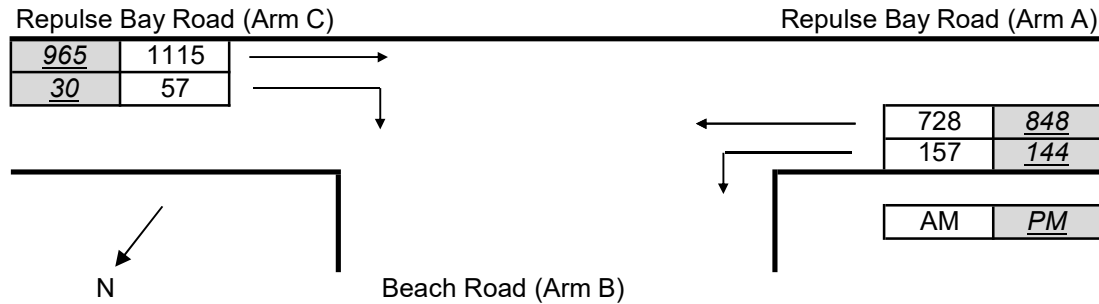
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	1120	975	Q-BA	198	199
q-CB	57	30	Q-BC	370	357
q-AB	157	144	Q-CB	524	506
q-AC	732	858	Q-BAC	198	199
q-BA	0	0			
q-BC	0	0			
f	0.000	0.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.000	0.000
C-B	0.109	0.059
B-AC	0.000	0.000

Priority Junction Analysis

Junction:	Beach Road / Repulse Bay Road	Job Number:	J7245
Scenario:	With Proposed Conversion (Weekday)	J01 - P. 3	
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input		Input		Input		Calculated	
W	9.50	V-rBA	50	w-BA	0.00	D	0.5786
W-CR	0.00	V-IBA	50	w-BC	0.00	E	0.6155
		V-rBC	50	w-CB	3.20	F	0.8974
		V-rCB	50			Y	0.4963

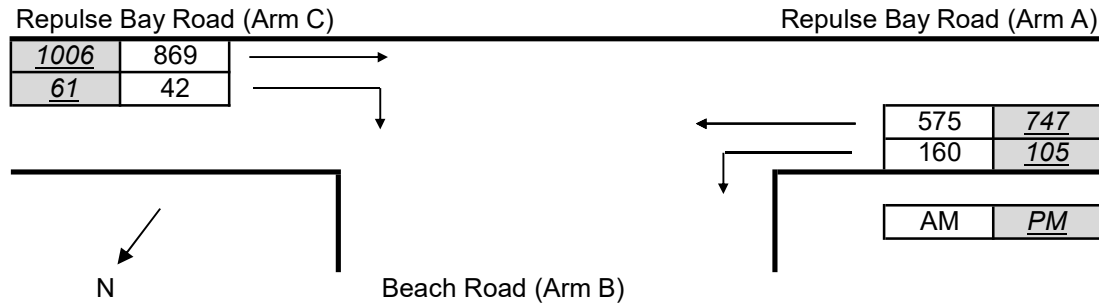
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	1115	965	Q-BA	198	200
q-CB	57	30	Q-BC	371	358
q-AB	157	144	Q-CB	525	508
q-AC	728	848	Q-BAC	198	200
q-BA	0	0			
q-BC	0	0			
f	0.000	0.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.000	0.000
C-B	0.109	0.059
B-AC	0.000	0.000

Priority Junction Analysis

Junction:	Beach Road / Repulse Bay Road	Job Number:	J7245
Scenario:	Existing Condition (Weekend)	J01 - P. 4	
Design Year:	2025	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	9.50	V-rBA	50	D 0.5786
W-CR	0.00	V-IBA	50	E 0.6155
		V-rBC	50	F 0.8974
		V-rCB	50	Y 0.4963

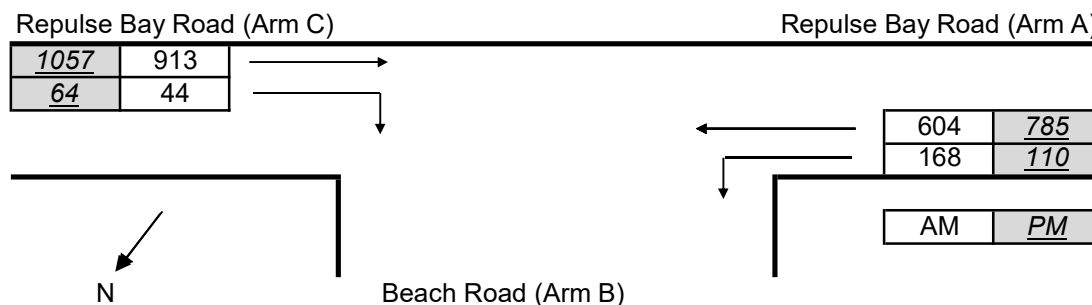
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	869	1006	Q-BA	233	205
q-CB	42	61	Q-BC	388	371
q-AB	160	105	Q-CB	549	530
q-AC	575	747	Q-BAC	233	205
q-BA	0	0			
q-BC	0	0			
f	0.000	0.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.000	0.000
C-B	0.076	0.115
B-AC	0.000	0.000

Priority Junction Analysis

Junction:	Beach Road / Repulse Bay Road	Job Number:	J7245
Scenario:	Without Proposed Conversion (Weekend)	J01 - P. 5	
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	9.50	V-rBA	50	D 0.5786
W-CR	0.00	V-IBA	50	E 0.6155
		V-rBC	50	F 0.8974
		V-rCB	50	Y 0.4963

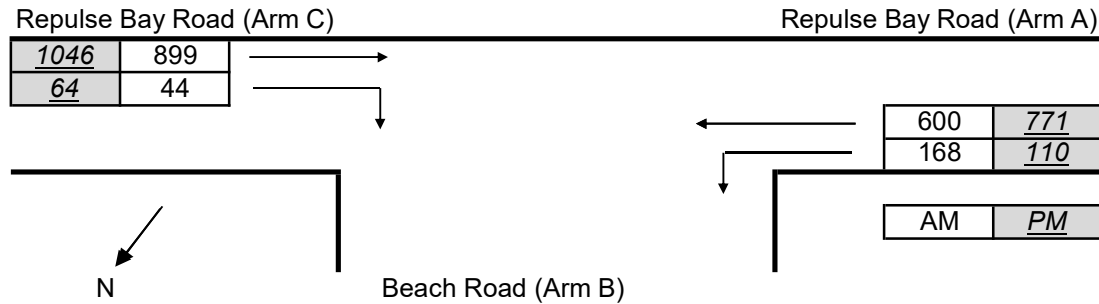
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	913	1057	Q-BA	226	197
q-CB	44	64	Q-BC	384	366
q-AB	168	110	Q-CB	543	523
q-AC	604	785	Q-BAC	226	197
q-BA	0	0			
q-BC	0	0			
f	0.000	0.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.000	0.000
C-B	0.081	0.122
B-AC	0.000	0.000

Priority Junction Analysis

Junction:	Beach Road / Repulse Bay Road	Job Number:	J7245
Scenario:	With Proposed Conversion (Weekend)	J01 - P. 6	
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	9.50	V-rBA	50	D 0.5786
W-CR	0.00	V-IBA	50	E 0.6155
		V-rBC	50	F 0.8974
		V-rCB	50	Y 0.4963

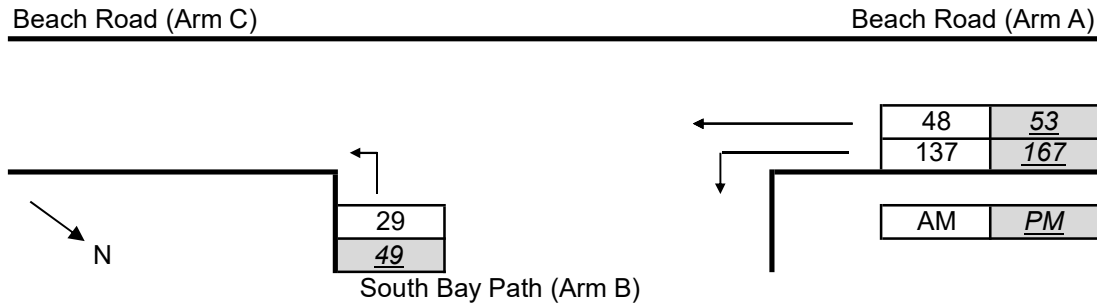
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	899	1046	Q-BA	227	199
q-CB	44	64	Q-BC	384	368
q-AB	168	110	Q-CB	544	526
q-AC	600	771	Q-BAC	227	199
q-BA	0	0			
q-BC	0	0			
f	0.000	0.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.000	0.000
C-B	0.081	0.122
B-AC	0.000	0.000

Priority Junction Analysis

Junction:	South Bay Path / Beach Road	Job Number:	J7245
Scenario:	Existing Condition (Weekday)		J02 - P. 1
Design Year:	2025	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	9.60	V-rBA	50	D 0.5786
W-CR	0.00	V-IBA	50	E 0.9238
		V-rBC	50	F 0.6155
		V-rCB	50	Y 0.4963

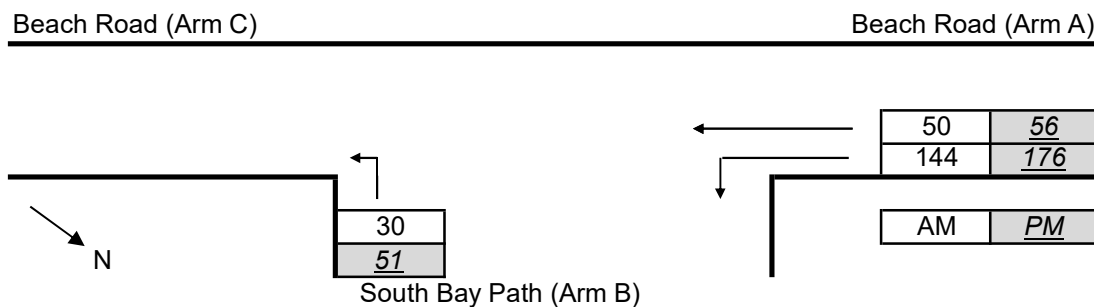
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	352	350
q-CB	0	0	Q-BC	671	668
q-AB	137	167	Q-CB	438	434
q-AC	48	53	Q-BAC	671	668
q-BA	0	0			
q-BC	29	49			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.043	0.073
C-B	0.000	0.000
B-AC	0.043	0.073

Priority Junction Analysis

Junction:	South Bay Path / Beach Road	Job Number:	J7245
Scenario:	Without Proposed Conversion (Weekday)		J02 - P. 2
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	8.60	V-rBA	50	D 0.5786
W-CR	0.00	V-IBA	50	E 0.9238
		V-rBC	50	F 0.6155
		V-rCB	50	Y 0.4963

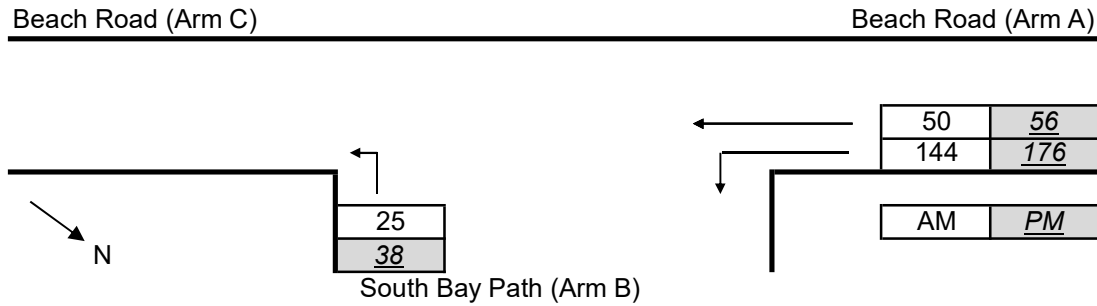
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	352	350
q-CB	0	0	Q-BC	670	667
q-AB	144	176	Q-CB	437	433
q-AC	50	56	Q-BAC	670	667
q-BA	0	0			
q-BC	30	51			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.045	0.076
C-B	0.000	0.000
B-AC	0.045	0.076

Priority Junction Analysis

Junction:	South Bay Path / Beach Road	Job Number:	J7245
Scenario:	With Proposed Conversion (Weekday)		J02 - P. 3
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	8.60	V-rBA	50	D 0.5786
W-CR	0.00	V-IBA	50	E 0.9238
		V-rBC	50	F 0.6155
		V-rCB	50	Y 0.4963

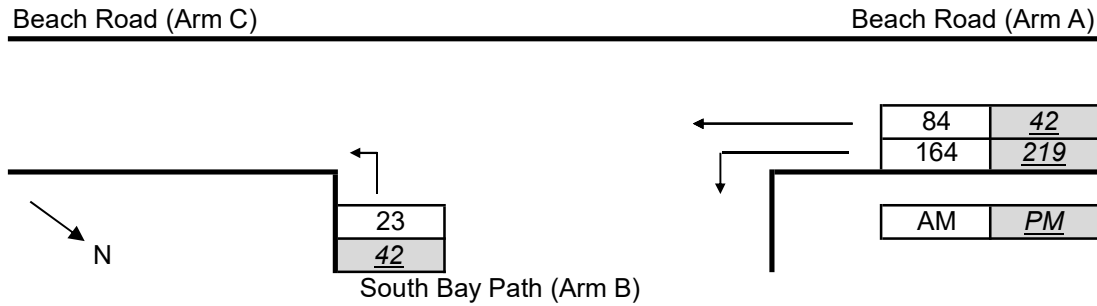
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	352	350
q-CB	0	0	Q-BC	670	667
q-AB	144	176	Q-CB	437	433
q-AC	50	56	Q-BAC	670	667
q-BA	0	0			
q-BC	25	38			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.037	0.057
C-B	0.000	0.000
B-AC	0.037	0.057

Priority Junction Analysis

Junction:	South Bay Path / Beach Road	Job Number:	J7245
Scenario:	Existing Condition (Weekend)	J02 - P. 4	
Design Year:	2025	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input	Input	Input	Calculated
W	9.60	V-rBA	50
W-CR	0.00	V-IBA	50
		V-rBC	50
		V-rCB	50
		w-BA	0.00
		w-BC	3.50
		w-CB	0.00
		D	0.5786
		E	0.9238
		F	0.6155
		Y	0.4963

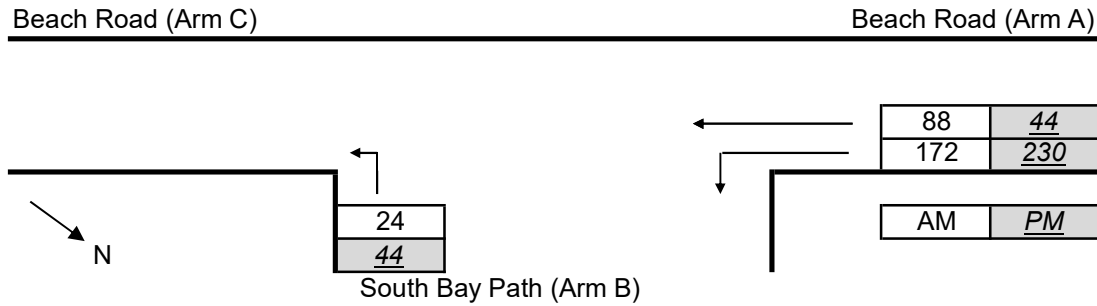
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	347	349
q-CB	0	0	Q-BC	663	667
q-AB	164	219	Q-CB	431	430
q-AC	84	42	Q-BAC	663	667
q-BA	0	0			
q-BC	23	42			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.035	0.063
C-B	0.000	0.000
B-AC	0.035	0.063

Priority Junction Analysis

Junction:	South Bay Path / Beach Road	Job Number:	J7245
Scenario:	Without Proposed Conversion (Weekend)		J02 - P. 5
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input	Input	Input	Calculated
W	8.60	V-rBA	50
W-CR	0.00	V-IBA	50
		V-rBC	50
		V-rCB	50
		w-BA	0.00
		w-BC	3.50
		w-CB	0.00
		D	0.5786
		E	0.9238
		F	0.6155
		Y	0.4963

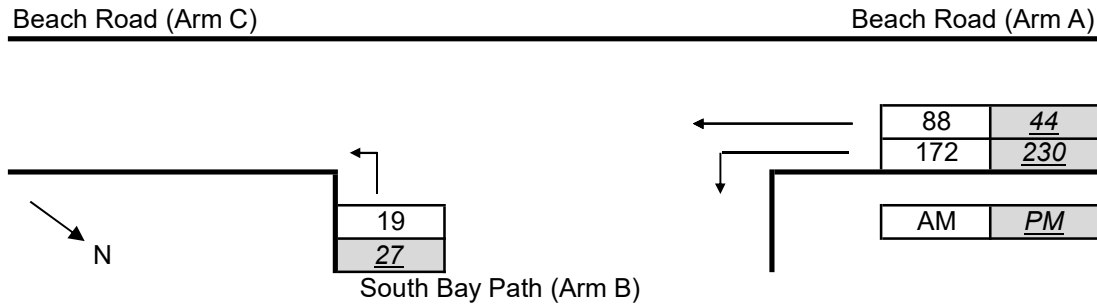
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	346	349
q-CB	0	0	Q-BC	662	666
q-AB	172	230	Q-CB	430	428
q-AC	88	44	Q-BAC	662	666
q-BA	0	0			
q-BC	24	44			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.036	0.066
C-B	0.000	0.000
B-AC	0.036	0.066

Priority Junction Analysis

Junction:	South Bay Path / Beach Road	Job Number:	J7245
Scenario:	With Proposed Conversion (Weekend)		J02 - P. 6
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input	Input	Input	Calculated
W	8.60	V-rBA	50
W-CR	0.00	V-IBA	50
		V-rBC	50
		V-rCB	50
		w-BA	0.00
		w-BC	3.50
		w-CB	0.00
		D	0.5786
		E	0.9238
		F	0.6155
		Y	0.4963

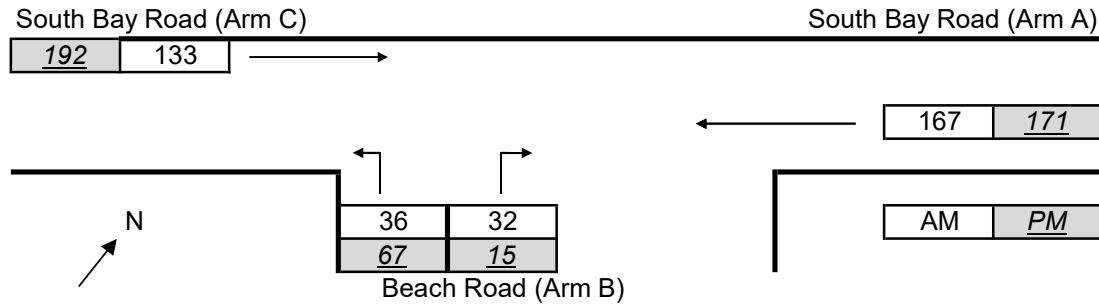
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	346	349
q-CB	0	0	Q-BC	662	666
q-AB	172	230	Q-CB	430	428
q-AC	88	44	Q-BAC	662	666
q-BA	0	0			
q-BC	19	27			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.029	0.041
C-B	0.000	0.000
B-AC	0.029	0.041

Priority Junction Analysis

Junction:	South Bay Road / Beach Road	Job Number:	J7245
Scenario:	Existing Condition (Weekday)		J03 - P. 1
Design Year:	2025	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input	Input	Input	Calculated
W	7.00	V-rBA	50
W-CR	0.00	V-IBA	50
		V-rBC	50
		V-rCB	50
		w-BA	3.50
		w-BC	3.50
		w-CB	0.00
		D	0.8684
		E	0.9238
		F	0.6155
		Y	0.4963

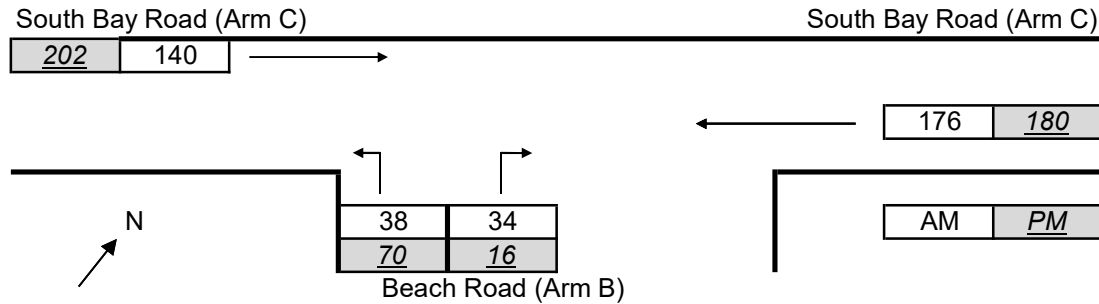
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	133	192	Q-BA	505	499
q-CB	0	0	Q-BC	660	660
q-AB	0	0	Q-CB	440	440
q-AC	167	171	Q-BAC	577	623
q-BA	32	15			
q-BC	36	67			
f	0.529	0.817			

Ratio-of-flow to Capacity	AM	PM
B-A	0.063	0.030
B-C	0.055	0.102
C-B	0.000	0.000
B-AC	0.118	0.132

Priority Junction Analysis

Junction:	South Bay Road / Beach Road	Job Number:	J7245
Scenario:	Without Proposed Conversion (Weekday)		J03 - P. 2
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input	Input	Input	Calculated
W	7.00	V-rBA	50
W-CR	0.00	V-IBA	50
		V-rBC	50
		V-rCB	50
		w-BA	3.50
		w-BC	3.50
		w-CB	0.00
		D	0.8684
		E	0.9238
		F	0.6155
		Y	0.4963

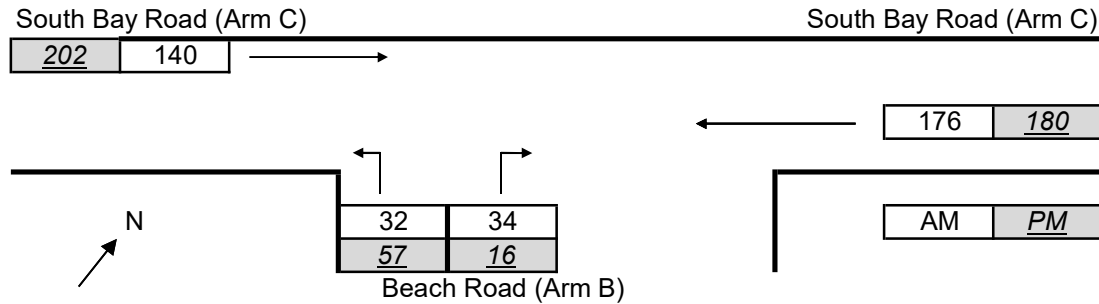
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	140	202	Q-BA	503	496
q-CB	0	0	Q-BC	659	658
q-AB	0	0	Q-CB	439	439
q-AC	176	180	Q-BAC	575	621
q-BA	34	16			
q-BC	38	70			
f	0.528	0.814			

Ratio-of-flow to Capacity	AM	PM
B-A	0.068	0.032
B-C	0.058	0.106
C-B	0.000	0.000
B-AC	0.125	0.139

Priority Junction Analysis

Junction:	South Bay Road / Beach Road	Job Number:	J7245
Scenario:	With Proposed Conversion (Weekday)		J03 - P. 3
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input		Input		Input		Calculated	
W	7.00	V-rBA	50	w-BA	3.50	D	0.8684
W-CR	0.00	V-IBA	50	w-BC	3.50	E	0.9238
		V-rBC	50	w-CB	0.00	F	0.6155
		V-rCB	50			Y	0.4963

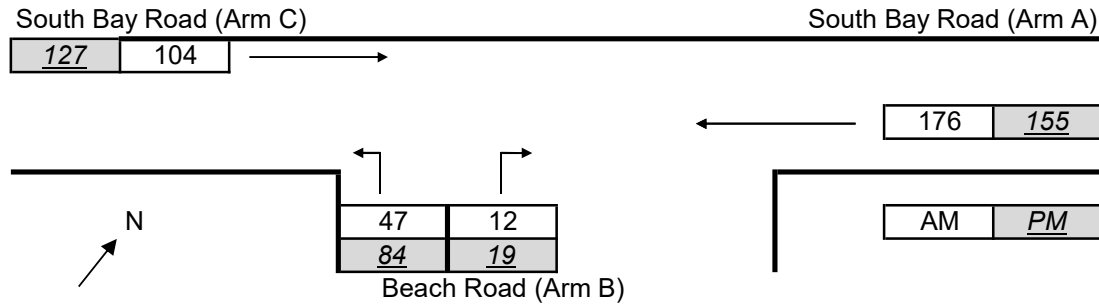
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	140	202	Q-BA	503	496
q-CB	0	0	Q-BC	659	658
q-AB	0	0	Q-CB	439	439
q-AC	176	180	Q-BAC	568	614
q-BA	34	16			
q-BC	32	57			
f	0.485	0.781			

Ratio-of-flow to Capacity	AM	PM
B-A	0.068	0.032
B-C	0.049	0.087
C-B	0.000	0.000
B-AC	0.116	0.119

Priority Junction Analysis

Junction:	South Bay Road / Beach Road	Job Number:	J7245
Scenario:	Existing Condition (Weekend)	J03 - P. 4	
Design Year:	2025	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input		Input		Input		Calculated	
W	7.00	V-rBA	50	w-BA	3.50	D	0.8684
W-CR	0.00	V-IBA	50	w-BC	3.50	E	0.9238
		V-rBC	50	w-CB	0.00	F	0.6155
		V-rCB	50			Y	0.4963

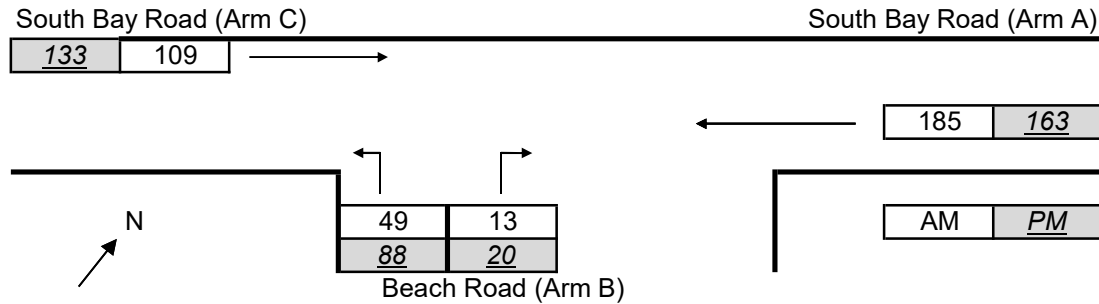
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	104	127	Q-BA	507	508
q-CB	0	0	Q-BC	659	662
q-AB	0	0	Q-CB	439	441
q-AC	176	155	Q-BAC	621	627
q-BA	12	19			
q-BC	47	84			
f	0.797	0.816			

Ratio-of-flow to Capacity	AM	PM
B-A	0.024	0.037
B-C	0.071	0.127
C-B	0.000	0.000
B-AC	0.095	0.164

Priority Junction Analysis

Junction:	South Bay Road / Beach Road	Job Number:	J7245
Scenario:	Without Proposed Conversion (Weekend)		J03 - P. 5
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input	Input	Input	Calculated
W	7.00	V-rBA	50
W-CR	0.00	V-IBA	50
		V-rBC	50
		V-rCB	50
		w-BA	3.50
		w-BC	3.50
		w-CB	0.00
		D	0.8684
		E	0.9238
		F	0.6155
		Y	0.4963

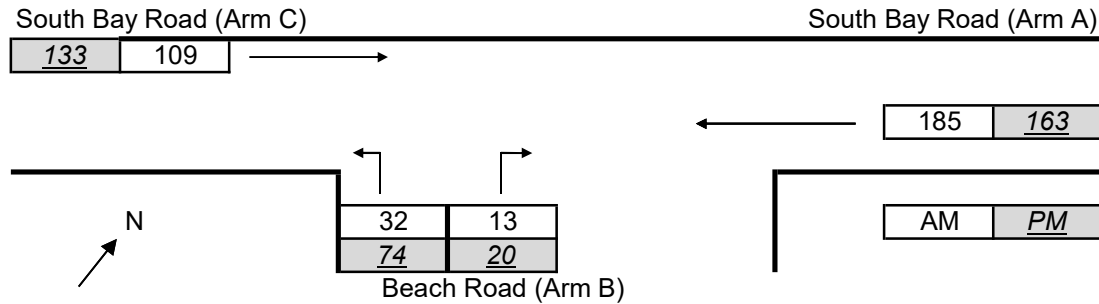
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	109	133	Q-BA	505	506
q-CB	0	0	Q-BC	657	661
q-AB	0	0	Q-CB	438	440
q-AC	185	163	Q-BAC	618	625
q-BA	13	20			
q-BC	49	88			
f	0.790	0.815			

Ratio-of-flow to Capacity	AM	PM
B-A	0.026	0.040
B-C	0.075	0.133
C-B	0.000	0.000
B-AC	0.100	0.173

Priority Junction Analysis

Junction:	South Bay Road / Beach Road	Job Number:	J7245
Scenario:	With Proposed Conversion (Weekend)		J03 - P. 6
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	7.00	V-rBA	50	D 0.8684
W-CR	0.00	V-IBA	50	E 0.9238
		V-rBC	50	F 0.6155
		V-rCB	50	Y 0.4963

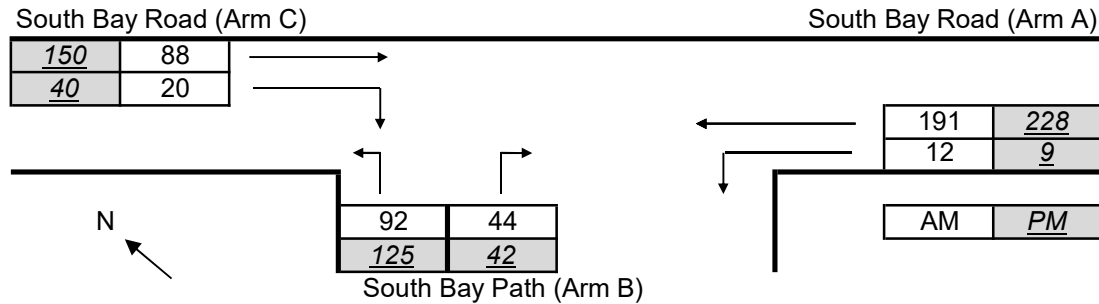
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	109	133	Q-BA	505	506
q-CB	0	0	Q-BC	657	661
q-AB	0	0	Q-CB	438	440
q-AC	185	163	Q-BAC	605	620
q-BA	13	20			
q-BC	32	74			
f	0.711	0.787			

Ratio-of-flow to Capacity	AM	PM
B-A	0.026	0.040
B-C	0.049	0.112
C-B	0.000	0.000
B-AC	0.074	0.151

Priority Junction Analysis

Junction:	South Bay Path / South Bay Road	Job Number:	J7245
Scenario:	Existing Condition (Weekday)		J04 - P. 1
Design Year:	2025	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	7.30	V-rBA	30	D 0.8007
W-CR	0.00	V-IBA	30	E 0.8628
		V-rBC	30	F 0.6037
		V-rCB	30	Y 0.4963

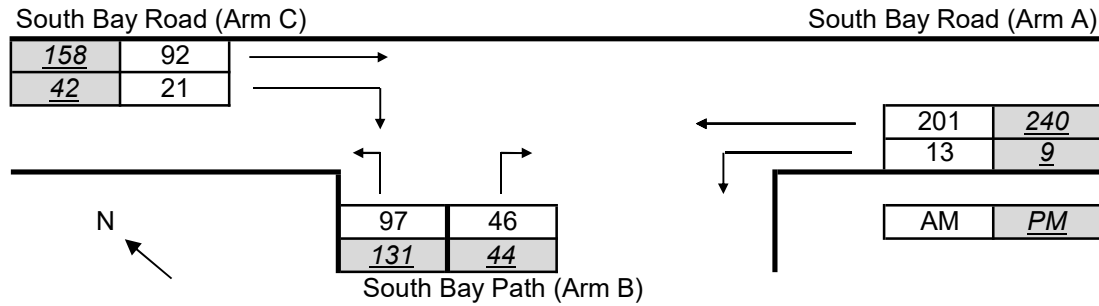
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	88	150	Q-BA	462	447
q-CB	20	40	Q-BC	612	607
q-AB	12	9	Q-CB	428	424
q-AC	191	228	Q-BAC	554	557
q-BA	44	42			
q-BC	92	125			
f	0.676	0.749			

Ratio-of-flow to Capacity	AM	PM
B-A	0.095	0.094
B-C	0.150	0.206
C-B	0.047	0.094
B-AC	0.246	0.300

Priority Junction Analysis

Junction:	South Bay Path / South Bay Road	Job Number:	J7245
Scenario:	Without Proposed Conversion (Weekday)		J04 - P. 2
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	7.30	V-rBA	30	D 0.8007
W-CR	0.00	V-IBA	30	E 0.8628
		V-rBC	30	F 0.6037
		V-rCB	30	Y 0.4963

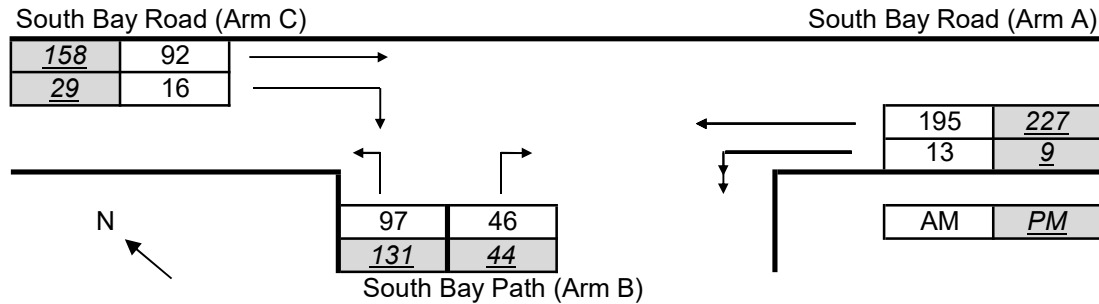
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	92	158	Q-BA	460	444
q-CB	21	42	Q-BC	611	605
q-AB	13	9	Q-CB	426	423
q-AC	201	240	Q-BAC	552	554
q-BA	46	44			
q-BC	97	131			
f	0.678	0.749			

Ratio-of-flow to Capacity	AM	PM
B-A	0.100	0.099
B-C	0.159	0.217
C-B	0.049	0.099
B-AC	0.259	0.316

Priority Junction Analysis

Junction:	South Bay Path / South Bay Road	Job Number:	J7245
Scenario:	With Proposed Conversion (Weekday)		J04 - P. 3
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	7.30	V-rBA	30	D 0.8007
W-CR	0.00	V-IBA	30	E 0.8628
		V-rBC	30	F 0.6037
		V-rCB	30	Y 0.4963

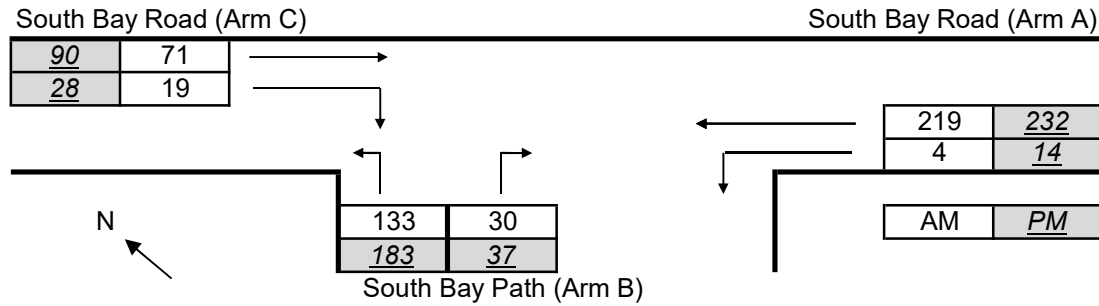
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	92	158	Q-BA	461	448
q-CB	16	29	Q-BC	612	607
q-AB	13	9	Q-CB	427	424
q-AC	195	227	Q-BAC	554	557
q-BA	46	44			
q-BC	97	131			
f	0.678	0.749			

Ratio-of-flow to Capacity	AM	PM
B-A	0.100	0.098
B-C	0.159	0.216
C-B	0.037	0.068
B-AC	0.258	0.314

Priority Junction Analysis

Junction:	South Bay Path / South Bay Road	Job Number:	J7245
Scenario:	Existing Condition (Weekend)		J04 - P. 4
Design Year:	2025	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

	Input	Input	Input	Calculated
W	7.30	V-rBA	30	D 0.8007
W-CR	0.00	V-IBA	30	E 0.8628
		V-rBC	30	F 0.6037
		V-rCB	30	Y 0.4963

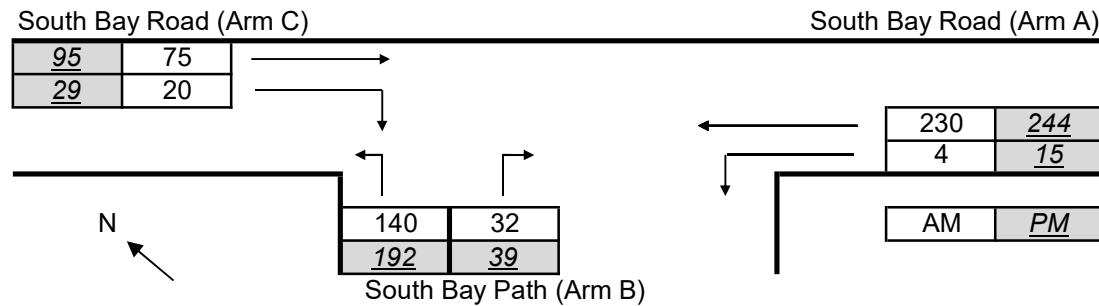
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	71	90	Q-BA	460	454
q-CB	19	28	Q-BC	608	606
q-AB	4	14	Q-CB	425	423
q-AC	219	232	Q-BAC	574	573
q-BA	30	37			
q-BC	133	183			
f	0.816	0.832			

Ratio-of-flow to Capacity	AM	PM
B-A	0.065	0.082
B-C	0.219	0.302
C-B	0.045	0.066
B-AC	0.284	0.384

Priority Junction Analysis

Junction:	South Bay Path / South Bay Road	Job Number:	J7245
Scenario:	Without Proposed Conversion (Weekend)	J04 - P. 5	
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input	Input	Input	Calculated
W	7.30	V-rBA	30
W-CR	0.00	V-IBA	30
		V-rBC	30
		V-rCB	30
		w-BA	3.00
		w-BC	3.00
		w-CB	0.00
		D	0.8007
		E	0.8628
		F	0.6037
		Y	0.4963

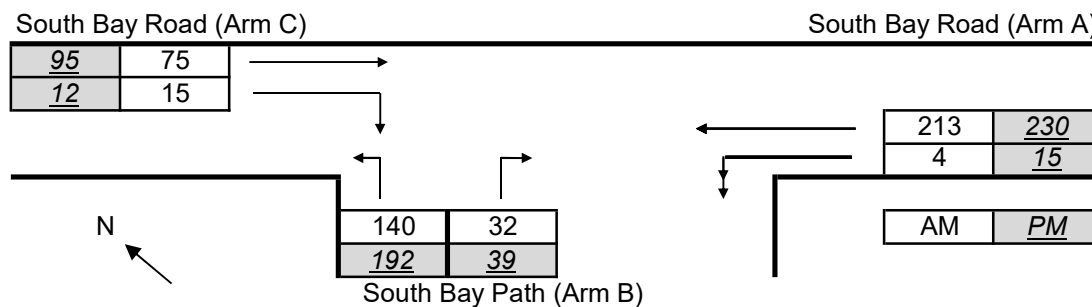
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	75	95	Q-BA	458	451
q-CB	20	29	Q-BC	607	604
q-AB	4	15	Q-CB	424	422
q-AC	230	244	Q-BAC	572	571
q-BA	32	39			
q-BC	140	192			
f	0.814	0.831			

Ratio-of-flow to Capacity	AM	PM
B-A	0.070	0.086
B-C	0.231	0.318
C-B	0.047	0.069
B-AC	0.301	0.404

Priority Junction Analysis

Junction:	South Bay Path / South Bay Road	Job Number:	J7245
Scenario:	With Proposed Conversion (Weekend)	J04 - P.	6
Design Year:	2030	Designed By:	MCY
		Checked By:	WCH
		Date:	12 May 2025



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input	Input	Input	Calculated
W	7.30	V-rBA	30
W-CR	0.00	V-IBA	30
		V-rBC	30
		V-rCB	30
		w-BA	3.00
		w-BC	3.00
		w-CB	0.00
		D	0.8007
		E	0.8628
		F	0.6037
		Y	0.4963

Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	75	95	Q-BA	461	457
q-CB	15	12	Q-BC	609	606
q-AB	4	15	Q-CB	426	423
q-AC	213	230	Q-BAC	575	574
q-BA	32	39			
q-BC	140	192			
f	0.814	0.831			

Ratio-of-flow to Capacity	AM	PM
B-A	0.069	0.085
B-C	0.230	0.317
C-B	0.035	0.028
B-AC	0.299	0.402

Roundabout Analysis

Junction: Repulse Bay Road / South Bay Road Roundabout Job Number: J7245
 Scenario: Existing Condition (weekday) J05 - P. 1
 Design Year: 2024 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	5	817	62						884	310
From B	563	26	107						696	74
From C	86	277	7						370	594
From D										
From E										
From F										
From G										
From H										
Total	654	1120	176						1950	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	0	532	49						581	428
From B	550	23	243						816	51
From C	85	403	2						490	573
From D										
From E										
From F										
From G										
From H										
Total	635	958	294						1887	

Legend

Arm	Road (in clockwise order)
A	Repulse Bay Rd (WB)
B	Repulse Bay Rd (EB)
C	South Bay Road
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	5.0	100.0	100.0	20	15	0.0
From B	5.0	3.5	50.0	10.0	20	20	0.2
From C	5.0	4.0	50.0	10.0	20	30	0.2
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	5.000	0.018	1.491	1.091	1515	0.626	1441	1361	884	581	0.613	0.427
From B	4.514	0.018	1.491	1.064	1368	0.596	1408	1423	696	816	0.494	0.573
From C	4.758	0.018	1.491	1.029	1442	0.611	1110	1123	370	490	0.333	0.436
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: Repulse Bay Road / South Bay Road Roundabout Job Number: J7245
 Scenario: Without Proposed Development (weekday) J05 - P. 2
 Design Year: 2029 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	5	859	65						929	325
From B	592	27	112						731	77
From C	90	291	7						388	624
From D										
From E										
From F										
From G										
From H										
Total	687	1177	184						2048	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	0	559	51						610	450
From B	578	24	255						857	53
From C	89	424	2						515	602
From D										
From E										
From F										
From G										
From H										
Total	667	1007	308						1982	

Legend

Arm	Road (in clockwise order)
A	Repulse Bay Rd (WB)
B	Repulse Bay Rd (EB)
C	South Bay Road
D	0
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	5.0	100.0	100.0	20	15	0.0
From B	5.0	3.5	50.0	10.0	20	20	0.2
From C	5.0	4.0	50.0	10.0	20	30	0.2
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	5.000	0.018	1.491	1.091	1515	0.626	1431	1346	929	610	0.649	0.453
From B	4.514	0.018	1.491	1.064	1368	0.596	1406	1422	731	857	0.520	0.603
From C	4.758	0.018	1.491	1.029	1442	0.611	1091	1105	388	515	0.356	0.466
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: Repulse Bay Road / South Bay Road Roundabout Job Number: J7245
 Scenario: With Proposed Development (weekday) J05 - P. 3
 Design Year: 2029 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	5	859	64						928	320
From B	592	27	108						727	76
From C	89	286	7						382	624
From D										
From E										
From F										
From G										
From H										
Total	686	1172	179						2037	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	0	559	48						607	440
From B	578	24	245						847	50
From C	86	414	2						502	602
From D										
From E										
From F										
From G										
From H										
Total	664	997	295						1956	

Legend

Arm	Road (in clockwise order)
A	Repulse Bay Rd (WB)
B	Repulse Bay Rd (EB)
C	South Bay Road
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	5.0	100.0	100.0	20	15	0.0
From B	5.0	3.5	50.0	10.0	20	20	0.2
From C	5.0	4.0	50.0	10.0	20	30	0.2
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	5.000	0.018	1.491	1.091	1515	0.626	1434	1352	928	607	0.647	0.449
From B	4.514	0.018	1.491	1.064	1368	0.596	1407	1423	727	847	0.517	0.595
From C	4.758	0.018	1.491	1.029	1442	0.611	1091	1105	382	502	0.350	0.454
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: Repulse Bay Road / South Bay Road Roundabout Job Number: J7245
 Scenario: Existing Condition (weekend) J05 - P. 4
 Design Year: 2024 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	0	571	45						616	342
From B	491	13	71						575	45
From C	72	329	0						401	504
From D										
From E										
From F										
From G										
From H										
Total	563	913	116						1592	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	1	637	21						659	430
From B	554	38	154						746	22
From C	64	392	0						456	593
From D										
From E										
From F										
From G										
From H										
Total	619	1067	175						1861	

Legend

Arm	Road (in clockwise order)
A	Repulse Bay Rd (WB)
B	Repulse Bay Rd (EB)
C	South Bay Road
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	5.0	100.0	100.0	20	15	0.0
From B	5.0	3.5	50.0	10.0	20	20	0.2
From C	5.0	4.0	50.0	10.0	20	30	0.2
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	5.000	0.018	1.491	1.091	1515	0.626	1419	1359	616	659	0.434	0.485
From B	4.514	0.018	1.491	1.064	1368	0.596	1427	1441	575	746	0.403	0.518
From C	4.758	0.018	1.491	1.029	1442	0.611	1167	1111	401	456	0.344	0.410
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: Repulse Bay Road / South Bay Road Roundabout Job Number: J7245
 Scenario: Without Proposed Development (weekend) J05 - P. 5
 Design Year: 2029 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	0	600	47						647	360
From B	516	14	75						605	47
From C	76	346	0						422	530
From D										
From E										
From F										
From G										
From H										
Total	592	960	122						1674	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	1	669	22						692	452
From B	582	40	162						784	23
From C	67	412	0						479	623
From D										
From E										
From F										
From G										
From H										
Total	650	1121	184						1955	

Legend

Arm	Road (in clockwise order)
A	Repulse Bay Rd (WB)
B	Repulse Bay Rd (EB)
C	South Bay Road
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	5.0	100.0	100.0	20	15	0.0
From B	5.0	3.5	50.0	10.0	20	20	0.2
From C	5.0	4.0	50.0	10.0	20	30	0.2
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	5.000	0.018	1.491	1.091	1515	0.626	1407	1344	647	692	0.460	0.515
From B	4.514	0.018	1.491	1.064	1368	0.596	1425	1441	605	784	0.424	0.544
From C	4.758	0.018	1.491	1.029	1442	0.611	1150	1092	422	479	0.367	0.439
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: Repulse Bay Road / South Bay Road Roundabout Job Number: J7245
 Scenario: With Proposed Development (weekend) J05 - P. 6
 Design Year: 2029 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	0	600	46						646	346
From B	516	14	71						601	46
From C	73	332	0						405	530
From D										
From E										
From F										
From G										
From H										
Total	589	946	117						1652	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	1	669	19						689	441
From B	582	40	148						770	20
From C	64	401	0						465	623
From D										
From E										
From F										
From G										
From H										
Total	647	1110	167						1924	

Legend

Arm	Road (in clockwise order)
A	Repulse Bay Rd (WB)
B	Repulse Bay Rd (EB)
C	South Bay Road
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	5.0	100.0	100.0	20	15	0.0
From B	5.0	3.5	50.0	10.0	20	20	0.2
From C	5.0	4.0	50.0	10.0	20	30	0.2
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	5.000	0.018	1.491	1.091	1515	0.626	1417	1352	646	689	0.456	0.510
From B	4.514	0.018	1.491	1.064	1368	0.596	1426	1442	601	770	0.421	0.534
From C	4.758	0.018	1.491	1.029	1442	0.611	1150	1092	405	465	0.352	0.426
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: South Bay Road / South Bay Close Roundabout Job Number: J7245
 Scenario: Existing Condition (weekday) J06 - P. 1
 Design Year: 2024 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	6	70	100						176	8
From B	89	0	8						97	106
From C	267	8	0						275	95
From D										
From E										
From F										
From G										
From H										
Total	362	78	108						548	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	13	109	173						295	15
From B	139	1	17						157	186
From C	339	14	0						353	153
From D										
From E										
From F										
From G										
From H										
Total	491	124	190						805	

Legend

Arm	Road (in clockwise order)
A	South Bay Rd (EB)
B	South Bay Close (WB)
C	South Bay Rd (NB)
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	3.5	25.0	15.0	25	25	0.2
From B	5.0	4.0	25.0	50.0	25	15	0.0
From C	5.0	4.0	25.0	50.0	25	30	0.0
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	4.636	0.030	1.485	1.027	1405	0.601	1438	1434	176	295	0.122	0.206
From B	4.940	0.030	1.485	1.062	1497	0.620	1520	1467	97	157	0.064	0.107
From C	4.940	0.030	1.485	1.010	1497	0.620	1452	1416	275	353	0.189	0.249
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: South Bay Road / South Bay Close Roundabout Job Number: J7245
 Scenario: Without Proposed Development (weekday) J06 - P. 2
 Design Year: 2029 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	6	74	105						185	8
From B	94	0	8						102	111
From C	281	8	0						289	100
From D										
From E										
From F										
From G										
From H										
Total	381	82	113						576	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	14	115	182						311	16
From B	146	1	18						165	196
From C	356	15	0						371	161
From D										
From E										
From F										
From G										
From H										
Total	516	131	200						847	

Legend

Arm	Road (in clockwise order)
A	South Bay Rd (EB)
B	South Bay Close (WB)
C	South Bay Rd (NB)
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	3.5	25.0	15.0	25	25	0.2
From B	5.0	4.0	25.0	50.0	25	15	0.0
From C	5.0	4.0	25.0	50.0	25	30	0.0
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	4.636	0.030	1.485	1.027	1405	0.601	1438	1433	185	311	0.129	0.217
From B	4.940	0.030	1.485	1.062	1497	0.620	1516	1460	102	165	0.067	0.113
From C	4.940	0.030	1.485	1.010	1497	0.620	1449	1411	289	371	0.199	0.263
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: South Bay Road / South Bay Close Roundabout Job Number: J7245
 Scenario: With Proposed Development (weekday) J06 - P. 3
 Design Year: 2029 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	6	74	100						180	8
From B	94	0	8						102	106
From C	275	8	0						283	100
From D										
From E										
From F										
From G										
From H										
Total	375	82	108						565	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	14	115	169						298	16
From B	146	1	18						165	183
From C	343	15	0						358	161
From D										
From E										
From F										
From G										
From H										
Total	503	131	187						821	

Legend

Arm	Road (in clockwise order)
A	South Bay Rd (EB)
B	South Bay Close (WB)
C	South Bay Rd (NB)
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	3.5	25.0	15.0	25	25	0.2
From B	5.0	4.0	25.0	50.0	25	15	0.0
From C	5.0	4.0	25.0	50.0	25	30	0.0
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	4.636	0.030	1.485	1.027	1405	0.601	1438	1433	180	298	0.125	0.208
From B	4.940	0.030	1.485	1.062	1497	0.620	1520	1469	102	165	0.067	0.112
From C	4.940	0.030	1.485	1.010	1497	0.620	1449	1411	283	358	0.195	0.254
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: South Bay Road / South Bay Close Roundabout Job Number: J7245
 Scenario: Existing Condition (weekend) J06 - P. 4
 Design Year: 2024 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	2	38	76						116	15
From B	61	0	15						76	78
From C	337	15	0						352	63
From D										
From E										
From F										
From G										
From H										
Total	400	53	91						544	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	8	48	118						174	9
From B	42	0	1						43	126
From C	404	9	0						413	50
From D										
From E										
From F										
From G										
From H										
Total	454	57	119						630	

Legend

Arm	Road (in clockwise order)
A	South Bay Rd (EB)
B	South Bay Close (WB)
C	South Bay Rd (NB)
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	3.5	25.0	15.0	25	25	0.2
From B	5.0	4.0	25.0	50.0	25	15	0.0
From C	5.0	4.0	25.0	50.0	25	30	0.0
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	4.636	0.030	1.485	1.027	1405	0.601	1434	1437	116	174	0.081	0.121
From B	4.940	0.030	1.485	1.062	1497	0.620	1538	1506	76	43	0.049	0.029
From C	4.940	0.030	1.485	1.010	1497	0.620	1472	1480	352	413	0.239	0.279
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: South Bay Road / South Bay Close Roundabout Job Number: J7245
 Scenario: Without Proposed Development (weekend) J06 - P. 5
 Design Year: 2029 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	2	40	80						122	16
From B	64	0	16						80	82
From C	354	16	0						370	66
From D										
From E										
From F										
From G										
From H										
Total	420	56	96						572	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	8	50	124						182	9
From B	44	0	1						45	132
From C	425	9	0						434	52
From D										
From E										
From F										
From G										
From H										
Total	477	59	125						661	

Legend

Arm	Road (in clockwise order)
A	South Bay Rd (EB)
B	South Bay Close (WB)
C	South Bay Rd (NB)
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	3.5	25.0	15.0	25	25	0.2
From B	5.0	4.0	25.0	50.0	25	15	0.0
From C	5.0	4.0	25.0	50.0	25	30	0.0
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	4.636	0.030	1.485	1.027	1405	0.601	1433	1437	122	182	0.085	0.127
From B	4.940	0.030	1.485	1.062	1497	0.620	1535	1502	80	45	0.052	0.030
From C	4.940	0.030	1.485	1.010	1497	0.620	1470	1479	370	434	0.252	0.293
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: South Bay Road / South Bay Close Roundabout Job Number: J7245
 Scenario: With Proposed Development (weekend) J06 - P. 6
 Design Year: 2029 Designed By: MCY Checked By: WCH Date: 12 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	2	40	75						117	16
From B	64	0	16						80	77
From C	337	16	0						353	66
From D										
From E										
From F										
From G										
From H										
Total	403	56	91						550	

PM Peak

Arm	To A	To B	To C	To D	To E	To F	To G	To H	Total	q _c
From A	8	50	107						165	9
From B	44	0	1						45	115
From C	411	9	0						420	52
From D										
From E										
From F										
From G										
From H										
Total	463	59	108						630	

Legend

Arm	Road (in clockwise order)
A	South Bay Rd (EB)
B	South Bay Close (WB)
C	South Bay Rd (NB)
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	5.0	3.5	25.0	15.0	25	25	0.2
From B	5.0	4.0	25.0	50.0	25	15	0.0
From C	5.0	4.0	25.0	50.0	25	30	0.0
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	4.636	0.030	1.485	1.027	1405	0.601	1433	1437	117	165	0.082	0.115
From B	4.940	0.030	1.485	1.062	1497	0.620	1539	1514	80	45	0.052	0.030
From C	4.940	0.030	1.485	1.010	1497	0.620	1470	1479	353	420	0.240	0.284
From D												
From E												
From F												
From G												
From H												

Appendix C – Swept Path Analyses



Project Title		PROPOSED CONVERSION OF PART OF THE PULSE INTO HOTEL IN "OTHER SPECIFIED USES (BEACH RELATED LEISURE USE)" AND "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONES AT NO. 28 BEACH ROAD, REPULSE BAY			Figure No.	SP01	Revision	B	CKM Asia Limited	
Figure Title		SWEPT PATH ANALYSES AT L/UL AREAS AT UG/F			Designed by	W C H	Drawn by	S C Y	Checked by	K C
					Scale in A3	1 : 400	Date	12 MAY 2025	Traffic and Transportation Planning Consultants	
									21st Floor, Methodist House, 36 Hennessy Road	
									Wan Chai, Hong Kong	
									Tel : (852) 2520 5990	
									Fax : (852) 2528 6343	
									Email : mail@ckmasia.com.hk	

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